CREATING A DISTINCTIVE UNIVERSITY:

IMPACT OF A TOP-DOWN APPROACH TO CHANGE

CULTURE FROM THE GROUND UP

by

Ian Chandler Paterson Godwin

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DEDICATION

This work is dedicated to the Scotch and American single malt distilleries that have indirectly supported this educational endeavor. Their craftsmanship has turned grains into liquid gold and writing into something far more palatable.

And, to Heidi Godwin, Len Eckstein, Chris Fastnow, David Singel, Neal Andrews, Dale Huls, Spencer Lipsteuer and Tony Campeau—thank you for arduously testing bottles with me, providing your colorful company, and helping me explore the statistically proven hypothesis that shared drams make for the best kind of research ($r^2 = .93$, $p < 0.000$). Whisk(e)y may not have all the answers, but it made answering the questions more challenging and enjoyable.

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ABSTRACT

Montana State University (MSU), like most organizations, is interested in cultivating a distinctive identity. One possible means towards that end is through the socialization of new faculty into its aspirational organizational culture. The Early Career Faculty Success (ECFS) program, a year-long initiative that evolved from the traditional one-day New Faculty Orientation, was introduced as a strategic intervention aimed at embedding MSU's cultural values and strategic goals into the practices of early-career faculty. This study investigated whether the ECFS program has influenced faculty behavior in ways that align with MSU's desired culture, thereby supporting institutional differentiation.

Using a quasi-experimental design, the study compared faculty who participated in the ECFS program with those who did not across three dimensions: 1) engagement with the institutional faculty productivity reporting tool (i.e. Watermark's Faculty Success), 2) the nature of activities reported (particularly alignment with institutional goals), and 3) demographic representation within the program. Quantitative analysis of engagement metrics and reported activities were used to evaluate the program's influence on faculty behavior.

Results indicated that ECFS participants were more likely to use the Faculty Success productivity reporting tool than their non-participating peers, suggesting increased alignment with institutional expectations of transparency and accountability. Furthermore, ECFS participants reported a higher number of activities that reflected MSU's strategic priorities, including student success, community engagement, and inclusive excellence. Demographic analysis showed broad participation across faculty types and identities, indicating the program's accessibility and institutional reach, but also differentiation between the proportion of various group types participation.

The findings suggest that the ECFS program promoted behavioral changes in faculty that lead to better alignment with MSU's cultural and strategic objectives. However, the effect sizes of those changes were small as was the number of faculty impacted. The study concludes that intentional culture-focused faculty development initiatives like ECFS can potentially serve as effective mechanisms for institutional change and differentiation. The results have implications for higher education leaders seeking to shape organizational culture in ways that support strategic goals and institutional identity.

CHAPTER ONE

INTRODUCTION

In January of 2020, this author drafted a proposal for a revision and expansion of the new faculty orientation at Montana State University (MSU) and sent it to the Senior Vice-Provost of the institution for consideration. The impetus was reading Roche's (2017) *Realizing the Distinctive University: Vision and Values, Strategy and Culture*, and thinking about how MSU might pursue a goal of not only differentiating the institution from other mid-size public universities, but also get a greater proportion of the organization "pulling" in the direction defined in the collaboratively developed strategic plan, *Choosing Promise* (MSU Planning Council, n.d.) in 2019.

The Senior Vice-Provost's (edited) response was:

> "I like this more than I thought I would.
>
> We have been working to have the First-Year Faculty Experience incorporated into all letters of hire as mandatory training.
>
> I had envisioned workshops that would amplify content from the NFO [New Faculty Orientation] speed-daters. [Principally focused on providing information on Division of Student Success programs and services.]
>
> Upon reflection. I like using the strategic plan as the organizing principle much better.
>
> This is training about culture. And training in culture will pave the way for taking care of need to know things.
>
> We just need to do this.
>
> I think a key first step is to either instruct the departments that this will happen, or launch a campaign to get their buy-in." (D. Singel, personal communication, January 14, 2020)

Although the proposal (Appendix A) was not implemented exactly as written, the Senior Vice-Provost's feedback and emphasis on aligning faculty development with the institution's strategic goals laid the groundwork for what would become the Early Career Faculty Success

(ECFS) program, launched the following fall (2020). The year-long ECFS program was designed to “build a welcoming and inclusive culture that spreads into classroom, research, creative and community spaces, and to equip faculty with the knowledge of how to promote student success through achieving excellence in teaching, scholarship and service” (MSU Center for Faculty Success, n.d.). As Clark (1984) states, “what they [faculty] have least in common is common knowledge, since the bundles they tend are specialized and separated one from another.” (p. 138). Therefore, to facilitate the development of a strong culture, “…the institution needs to take specific steps to socialize the individual to the belief system of the organization” (Dill, 2012, p. 317). The Early Career Faculty learning Community (ECFLC), a component of the ECFS program, is intended to provide some baseline common knowledge about the institution and its goals. The objective of this project is to explore the efficacy of MSU’s change initiative, the ECFS program, designed to develop a distinctive institution by facilitating the transmission and adoption of its aspirational organizational culture to new faculty. As stated by Roche (2016):

> “The most important idea on any campus is the distinctive vision. To ensure that people connect with the animating ideas and ethos of the institution, one needs to hire the right people and mentor them toward the vision through a socialization process that will help them flourish and ensure their good ideas are integrated into the dynamic articulation of the university’s mission. One also needs to find strategies and incentives to realize the vision.” (p. 81)

The development of the Early Career Faculty Success program did not happen in isolation; it emerged from a growing recognition that the success of any institutional change, including this faculty initiative, is deeply influenced by the organizational culture in which it operates. The Senior Vice-Provost’s feedback highlighted the importance of moving beyond just information dissemination, emphasizing instead the need to orient and integrate new faculty into the institution's strategic vision. This acknowledgment laid the foundation for focusing on culture as the central theme of the ECFS, recognizing that faculty engagement and alignment with institutional values are key to driving change. In higher education, organizational culture plays a crucial role in determining whether change initiatives can be successfully adopted. The ECFS therefore sought to address not only the practical needs of new faculty but also the broader goal of cultivating a shared institutional identity aligned with MSU’s strategic vision. It was the decision to embed the institution’s cultural goals within the program that ultimately shaped the ECFS into a long-term change initiative. By focusing on socializing new faculty into MSU's desired cultural framework, the program aims to foster a distinctive and cohesive academic community. The following section explores the relationship between organizational culture and change initiatives, providing a theoretical framework for understanding how the ECFS aims to promote a cultural shift within the university.

Culture & Change (Which Comes First?)

The relationship between culture and a change initiative is interdependent (Bergquist, 1992; Kezar & Eckel, 2002), and the approach to which should precede the other depends on the specific context of the organization (Curry, 1992; Kezar & Eckel, 2002). However, here are two perspectives to consider:

Perspective 1: Working with Culture First to Facilitate Change:

If the existing organizational culture is strong and seemingly aligned with the change being considered, it makes sense to start by leveraging the current cultural strengths. In this case, the change initiative can be designed to resonate with the cultural values, norms, and behaviors already present. This approach minimizes resistance and increases the likelihood of successful adoption as a strong, positive culture can serve as a foundation for change. By identifying and amplifying the aspects of culture that support the change, leaders can create a sense of continuity and reduce the fear of change (Bergquist 1992; Curry, 1992). As stated by Curry (1992), "When an organization's leaders develop that climate, they in effect are beginning the process of change." (p. 23).

Perspective 2: Implementing Change Initiatives to Influence Culture:

In situations where the existing culture may be a barrier to change, a change initiative may need be employed to facilitate the desired cultural shift(s) in the organization (Curry, 1992; Kezar & Eckel, 2002). For example, if an organization needs to become more innovative but has a risk-averse culture, as many higher education institutions do (Roche, 2017), the initiative to foster innovation might need to start before cultural transformation will be realized. The change initiative sets the direction, with the hope that the organizational culture will evolve to support it. In other words, the hope would be that by implementing new behaviors, practices, and processes through a change initiative, the culture (values, beliefs and behaviors) begins to shift in response.

A balanced approach is often most effective, where the change initiative and cultural considerations are addressed simultaneously. Understanding the current culture and the desired change allows for a tailored strategy that either aligns with or gradually transforms the culture to support the change initiative (Curry, 1992).

The interplay between culture and change is particularly significant in higher education, where institutions often struggle to implement innovations that may be perceived as threatening tradition. Understanding this dynamic is crucial for any university seeking to differentiate itself within a competitive and homogeneous (withing institutional strata) academic landscape. To fully appreciate the challenges and opportunities faced by institutions like MSU in fostering distinctiveness through cultural change, it is essential to first consider the broader historical context of how universities in the U.S. have been categorized and distinguished. The following brief background provides insight into the evolution of institutional classification and its impact on efforts toward differentiation.

Background

Some might argue that at certain, defined scales most universities within the U.S. lack distinctiveness and within classes are largely undifferentiated (Cole, 2016; Roche, 2017). While not the first effort in the history of higher education to classify institutions, it was Clark Kerr's efforts during the crafting of the Master Plan for higher education in California in 1959 that set the foundation for the formalized identification of distinctions between groups of institutions (Douglas, 2007). Concerned that in the absence of a clearly defined system of higher education, state executives and legislators might seek to homogenize post-secondary public institutions, the Master Plan encouraged "each of the three public segments [the University of California, the California State University, and the Community Colleges in the state] to concentrate on creating its own distinctive kind of excellence within its own particular set of responsibilities" (UC Office of the President, 2007). As Brint (2013) stated, "The Master Plan succeeded in imposing an order on what was fast becoming a chaotic competition among public higher education institutions in the state of California." (p. 98). Further, "The Master Plan created the first clearly ordered and differentiated organizational field within public higher education, and it was organized by highest degree offered." (Brint, 2013, p. 98).

After shepherding the California Master Plan to fruition, Kerr headed the 1970 Carnegie Commission on Higher Education's efforts to classify all higher education institutions within the United States (Harris, 2013; McCormick & Zhao, 2005). Those efforts were realized with the release of the first iteration of the Carnegie Classification of Higher Education Institutions in 1973 (Carnegie Classification of Institutions of Higher Education, n.d. a). The intent of the classification was to facilitate the "study of higher education and are intended to be an objective, degree-based lens through which researchers can group and study similar institutions" (Carnegie Classification of Institutions of Higher Education, n.d. a). Ironically, one of the impacts of the Carnegie Classification system is that it encouraged institutions to try and be more like other institutions they aspired to be grouped with (Miller, 2019; Morphew, 2009; Roche, 2017). The result of that behavior is that within given Carnegie defined classes, higher education institutions are often considered relatively homogeneous (Cole, 2016). As McCormick & Zhao (2005) stated, "Kerr wrote that the commission sought to create categories that would be 'relatively homogeneous with respect to the functions of the institutions as well as with respect to characteristics of students and faculty members.'" (p.52). So, while Harris (2013) contends that American higher education demonstrates a "significant level of institutional diversity" (p. vii), that diversity exists more between classification groups than within them (Cole, 2016; King & Whetten, 2008; Miller, 2019; Roche, 2017; Rosenberg, 2023).

So, if doctoral granting universities are relatively homogeneous, and more so within their subgroups (R1: Doctoral Universities – Very high research activity, R2: Doctoral Universities – High research activity, and D/PU: Doctoral/Professional Universities), how does an institution differentiate itself from its peers? There is ample literature on why an organization would want to stand out from its peers (Bain, 1956; Barman, 2002; Deephouse, 1999; Dickson & Ginter, 1987; Dranove, Gron & Mazzeo, 2003; King & Whetten, 2008; Porac, Thomas, Wilson, Paton & Kanfer, 1995; Porter, 1997; Roche, 2017; Scott & Davis, 2016; Sharp & Dawes, 2001) which will be briefly explored in the literature review, but (spoiler alert) as stated by Clark (1972), "Enduring loyalty follows from a collective belief of participants that their organization is distinctive" (p. 183). The objective of creating distinction aside, this project is principally concerned with investigating if hierarchically defined (top down) efforts or "interventions" can drive a higher education institution to change in order to be recognized as being distinct from the other institutions within its organizational population.

Montana State University (MSU) is a doctoral degree granting land grant university located in Bozeman, Montana. (Oxymoronically,) MSU is one of two formally designated "flag ship" institutions in the State of Montana, with the University of Montana (UM) being the other. Though MSU is the larger (17,144 headcount vs. 10,811 at UM – both in Fall 2024) and more "productive", if productivity is defined by research expenditures, ($200.8 million vs. $125.6 million) (NCSES, 2023), as recently as Fall 2009, the two institutions were comparable in student headcount, with UM perpetually (up to that point in time) having slightly larger enrollment. These points of comparison are mentioned purely to establish the lack of historic differentiation (or distinctiveness) between MSU and UM beyond their respective colloquial labelling as the state's "Ag [agricultural] school" and "Liberal Arts school". Of course, the implementation of a statewide performance funding model by the Office of the Commissioner of Higher Education (OCHE) in 2013 (OCHE, n.d.), which allocates resources to the two Flagships based on the same metrics, exacerbates their similarities (Harris, 2013). As Czarniawska (1997) states, chronic mistaken identity represents a potential critical vulnerability for organizations underscoring the essential and universal desire, if not requirement for organizational recognizability.

As Richard Howard, Professor of Higher Education Administration (retired) and past President of the Association for Institutional Research, stated (personal communication, 2001), “Faculty are the production function of the university”. That sentiment was echoed by Roche (2016) who stated, “that the core of a university is its faculty” (p. 120) and Clark (1984) who stated, “When we look to ‘the factory floor’ of higher education, what we see are clusters of professionals [faculty] tending various bundles of knowledge.” (p. 138). Therefore, to change an institution, the faculty must change first (Curry, 1992; Roche, 2017; Rosenburg, 2023). While this could theoretically be accomplished by exchanging the members of the faculty at an institution with different ones, violating tenure and the subsequent probability of censure from the American Association of University Professors make that unlikely as well as unpalatable. A more positively framed and realistic option is to try and change the culture of the existing faculty.

Problem

The problem addressed in this work is that administrators at Montana State University need to know whether their “intervention”, the expansion of the one-day New Faculty Orientation into the nine-month Early Career Faculty Success program (ECFS), has had an impact on the culture (as manifested in their behaviors) of new faculty within the institution.

Purpose

The purpose of this quasi-experimental study (Achen, 1986; Gliner, Morgan & Leech, 2017) is to identify whether the Early Career Faculty Success program has resulted in increasing the amount and type (aligned with institutional goals and objectives) of "productivity" reported by new faculty who have participated in the program.

Research Questions

The following research questions will be addressed in this study:

1. Do faculty who participated in the Early Career Faculty Success program engage with the faculty productivity reporting tool (Faculty Success) at a greater rate than faculty who did not participate in the ECFS? Increased use of Faculty Success indicates faculty are more actively engaging with institutional expectations, which suggests a shift towards the desired culture of transparency and accountability. This question will help determine whether the program is encouraging this behavior among new faculty, a critical first step in embedding the strategic goals into daily practices.

2. Do faculty who participated in the ECFS report more activities that reflect the kinds of things the institutions strategic plan intends to promote? By examining whether faculty activities align with strategic goals, this question explores whether the ECFS fosters behaviors that support MSU's cultural vision. A positive response would indicate the program's success in transmitting the aspirational culture to new faculty, helping MSU differentiate itself through its strategic priorities.

3. Is there a difference in the demographic composition (faculty appointment type, gender, etc.) of participants compared to their non-participating new-faculty cohort peers? This

question investigates whether the program reaches a diverse cross-section of faculty, ensuring that the cultural shift is not limited to certain demographics but is experienced across the institution. A more inclusive program supports a comprehensive cultural transformation by ensuring all faculty are involved in aligning with MSU's strategic goals.

Significance of the Study

A continuous thread throughout the Early Career Faculty Success program has been an orientation to, explanation of the genesis of, and suggestions regarding how faculty can contribute to the institution and its strategic plan. While many (Cabrera, Ratcliff & de Vries, 2000; Fumasoli, Gornitzka & Maassen, 2014; Maassen & Stensaker, 2019; Patterson, 2010) indicate that faculty and academic units (departments) within higher education, often considered loosely linked organizations, are particularly unresponsive to their institutions strategic plans and goals, there is also evidence that identifying (expected? preferred?) cultural norms can encourage the alignment of those who may not otherwise be engaging in behavior that supports the broader communities interests and objectives (Austin, Ward, Otto, Green & Watson, 2022; National Academies of Sciences, Engineering, and Medicine, 2018; Ward, Otto, Finley & Green, 2016). Since part of the intent of MSU's strategic plan is to pursue a course of action designed by stakeholders to move MSU to stand out, or be distinct from its peers, demonstrating a connection between the ECFS and progress towards the goals (as defined by the metrics) of the plan may provide some indication of the success of the program. In other words, as Curry (1992) would ask, can the change be considered to have achieved its goals and therefor be institutionalized?

By answering the research questions above, this study will provide a comprehensive understanding of whether the ECFSP may or may not be promoting the cultural alignment necessary for MSU to stand out among its peers. The insights gained will be valuable for determining whether the program can serve as a model for cultural change, ultimately helping the institution achieve its goal of differentiation within the competitive landscape of higher education.

CHAPTER TWO

LITERATURE REVIEW

In order to provide context for the ensuing study some additional background on topics mentioned in the introduction will be covered in this chapter. The information covered below is not meant to be exhaustive, rather it is meant to provide the necessary background to situate this work within the broader milieu of higher education classification, differentiation, organization and culture.

Classification of Higher Education Institutions

Institutions of higher education (IHEs) can be classified in a number of different ways. One of the more common ways is to classify IHEs by sector, a combination of institutional control and level (e.g. Public 4-year, Private nonprofit 4-year, etc.). Another common system used to "identify meaningful similarities and differences among institutions" is the Carnegie Classification system (Carnegie Classification of Institutions of Higher Education, n.d. b). The complete classification system (2021 version) used six dimensions which are further divided into subclasses. There are many other variables that can be and are used as the basis for classifying IHEs (e.g. enrollment size, geographic region, *etc.*) depending on the user's objectives. The point of discussing the various ways IHEs can be grouped is to highlight that they are multidimensional organizations that are frequently clustered with "like" institutions into "peer groups" in order to compare and contrast them.

Organizational Differentiation & Distinction

Harris (2013) and Weerts, Freed, and Morphew (2014) assert that higher education in the United States demonstrates greater diversity of types than found in any other nation. A review of the numerous classification types that the 3,939 higher education institutions are parsed into by the Carnegie Classification of Institutions of Higher Education (n.d. a) seems to support Harris' claim. Yet, as identified in the introduction, others (Cole, 2016; King & Whetten, 2008; Miller, 2019; Roche, 2017; Rosenberg, 2023) decry the homogeneity of institutions of higher education in the U.S. when they are compared to others within their peer groups.

So, it is when viewing institutions relative to others in their class that Roche (2017) declares that "For a university to flourish, it needs to embrace a distinctive vision and instantiate or embody that vision into specific practices" (p. 4). Cole (2016) similarly states that "There has to be a more intense search for individual identity" (p. 274) as "a lack of differentiation among our leading universities is the norm today" (p. 274). But why? What is it about differentiation or distinctiveness that could prove advantageous to an organization?

Why Differentiate?

As Deephouse and Carter (2005) identify, organizations need to cultivate two overlapping but seemingly incongruous concepts to be successful. On the one hand they need to exhibit legitimacy, i.e. "conform to normative rules, regulative processes, and cognitive meanings" (p. 331). As affirmed in numerous works (Meyer, Scott & Deal, 1981; Morphew, 2009; Scott, 2001), organizational theorists have maintained that legitimacy is a fundamental necessity for all organizations. At the same time, organizations need to cultivate a (positive) reputation, typically achieved by being perceived as having better relative standing among peer organizations (Barman, 2002). Thus, as Lawrence (1998) states, reputation “differentiate[s] between the qualified [legitimate] and the ‘outstanding’” (p. 1122).

Accordingly, higher education institutions want to be viewed as legitimate (to reduce organizational risk) by looking like their peer institutions but also differentiate themselves along some dimension(s) to be perceived as above or better than their peers. This reduces competition and yields greater opportunity for garnering external resources relative to those same peers (Barman, 2002; Deephouse, 1999; Dickson & Ginter, 1987; Harris, 2013; King, Clemens & Fry, 2011; King & Whetten, 2008; Lenz & Engledow, 1986; Miller, 2019; Porac, Thomas, Wilson, Paton & Kanfer, 1995; Scott & Davis, 2016). Ultimately, the organizational objective is to realise the strategic balance proposition, which asserts that “moderately differentiated firms [organizations] have higher performance than either highly conforming or highly differentiated firms [organizations]” (Deephouse, 1999, p. 148). This balance can also be viewed as the peak of a curvilinear function, whereby too much differentiation results in reduced legitimacy (the organization has colored too far outside the lines to be recognized within its peer group) (Deephouse, 1999; Deephouse & Carter, 2005; Harris, 2013; King & Whetten, 2008; Porac et al., 1995).

From a high level systems perspective, Harris (2013) states that colleges that fail to clearly communicate their unique strengths and distinguishing features to students undermine the values and advantages associated with institutional diversity. At a more operational level, the inability to communicate the college or university’s distinctiveness also inhibits potential student’s capability to identify the best fit for their own goals and objectives (Art & Science

Group, 2023; Harris, 2013). The Art & Science Group (2023) take that a step further and state that,

> “Institutions should seek to understand the idiosyncrasies of their own markets, how a variety of factors (including, but not limited to, sensitivities to cost), impact their competitive position and appeal, and seek to differentiate themselves in ways that are true to their mission and character – but also in ways that matter to the prospective students they seek to enroll.” (p. 11).

In addition to competitive positioning, differentiation also serves as a mechanism for identity realization. This is vital for building loyalty and aligning with the values of specific stakeholder groups. Sharp and Dawes (2001) argue that a unique identity supports organizations in their efforts to develop internal and external loyalty ultimately leading to greater financial stability and brand strength.

Achieving Differentiation

Dickson and Ginter (1987) define a product differentiation strategy as one whereby the organization works to change the potential market’s perception of the product in order to effect demand for it. Higher education institutions can observe competitors and adjust their offerings to fulfil unmet needs or underserved markets, thus establishing a differentiated position. This approach, alongside strong branding, fosters a sustainable competitive advantage in a crowded educational landscape by reinforcing each institution's distinctive appeal to potential students and stakeholders (White, 1981).

Barman states (2002), “differentiation is a fundamentally cultural and social act” (p. 1195). Toma, Dubrow, and Hartley (2005) suggest that a strong institutional culture that clearly defines and expresses their unique norms, values, and beliefs can be used as the basis for demonstrating the distinctiveness of a university and can be self-reinforcing. By developing a distinctive culture, institutions foster deeper connections and identification among both internal and external constituencies (Clark, 1972). This connection enhances brand equity, where a clear institutional identity attracts loyalty and support by aligning the institution's image with its core values and mission. Sharp and Dawes (2001) note that institutions benefit when they create unique brand associations that resonate with stakeholders. For educational institutions, this might involve emphasizing specialized academic programs, distinctive campus cultures, or targeted community engagement that aligns with institutional values. Emphasizing unique qualities and consistent messaging can thus build a sense of community and pride, essential for thriving in a competitive educational landscape (Toma, Dubrow & Hartley, 2005)

Organizational Structure in Higher Education

As an organization's culture is related to and in many ways predicated by its structure (Kezar & Eckel, 2002; Maassen, 1996; Smart & St. John, 1996), the author will describe the organizational structure of IHEs as a starting point for the exploration of their cultures.

Organizational Structures

According to Scott and Davis (2016), organizations that emerge during the same historical periods, such as many U.S. universities, often encounter similar contextual factors that influence their development. As a result, these institutions tend to adopt comparable organizational structures.

Birnbaum (1989) identifies four basic models of organizational structure in higher education: bureaucratic organizations, collegial organizations, political systems, and organized anarchies. He identifies their sequential development as paralleling (though lagging behind) the development of the “structural [rational], human resource [natural], political, and symbolic” (p. 239) conceptualizations of organizational structural paradigms.

To better understand Birnbaum’s (1989) models, some of their defining characteristics and where those characteristics might be observed follow below. The Bureaucratic Institution functions based on the application of structure, rules and policies. This model is often used to describe community colleges. Primarily catering to part-time commuter students, they also tend to enroll a sizable population of “students over the traditional age”. Many of the faculty do not have terminal degrees, may be on adjunct appointments and may not choose to involve themselves in campus activities beyond the teaching of their assigned classes and office hours. As identified earlier, the bureaucratic institution is considered a correlate to rational system organizations.

One of the primary administrative characteristics of Birnbaum’s (1989) next model, Collegial Institutions, is the “collegial” nature of decision making which occurs because of primarily informal interactions between the close-knit faculty and administration. This natural systems model often equates to small, private, liberal arts institutions with relatively small numbers of students who generally reside on campus and enroll as full-time students. There tends to be low faculty turnover and an emphasis on “fit” during the hiring process at these schools. These IHEs have high faculty to student ratios and small administrative functions with upper administration staffed primarily by homegrown “former” faculty.

The Political Institution is defined as one where decisions are made by building coalitions and membership within the coalitions is dynamic and dependent entirely on the issue. Representations of this dominant coalition theory model of IHEs might include regional state universities with a mix of “local” and “cosmopolitan” faculty who frequently associate themselves with their discipline more so than their institution.

Lastly, Anarchical Institutions are characterized by autonomous faculty and students. Organization and direction within these IHEs seem amorphous and participation in any process and at all levels is based on interest and available time (or competing interests or obligations). The little change that might occur at these institutions will likely be the result of the cultivation of like opinions over time, and “garbage can” decision making (Cohen, March & Olsen, 1972) predominates. Carnegie classified Research I doctoral universities (2021 classification system) tend to be most representative of this model.

Of course, no higher education institution is a pure expression of any of these models. Rather, as expressed in Thompson’s Levels model (Scott & Davis, 2007), it is some combination of the various models that define classes of and individual institutions (Birnbaum, 1989). While it may be easy to broadly declare that certain institution types (e.g. Research I universities) have associated structural types (e.g. anarchical), the association would likely be a misleading generalization except within the broadest characterization of those IHE types. More common would be a composite of Birnbaum’s (1989) organizational structures within a given institution that vary both vertically and horizontally.

In somewhat of a reshuffling of Thompson’s assignment of perspectives to organizational levels (Scott & Davis, 2007), most universities are likely to be bureaucratic or rational at the executive level and within functional administrative areas such as Human Resources and Budgeting offices, but more likely to be collegial or naturalistic the closer you get to the “production function”, i.e. faculty. Still, you are also likely to find variation horizontally within the same organization, particularly between academic departments. For example, at Montana State University, while most academic departments conduct faculty annual reviews in a rationalistic (hierarchical) fashion whereby the department head acts as the reviewer for each faculty member, about 16% of the departments opt to conduct annual reviews using a more collegial (natural), or perhaps political, method employing faculty peer committees.

Ultimately, Birnbaum (1989) describes the modern university as a chaotic “buzz of conflicting activities, argumentation over priorities, and shifting alliances” (p. 240) that still manages to maintain order and stability, though lacks predictability. Maassen and Stensaker (2019) elaborate on the description of universities as “organized anarchies or loosely coupled systems” (p. 457). They explain that as organized anarchies, universities are characterized as having problematic preferences, or a “mixture of social, cultural, and economic functions” (p. 458), unclear technologies associated with the dual roles of knowledge discovery and knowledge transmission, and fluid participation of academic staff and professionals that leed to “uncertain and changing unstable organizational boundaries” (p. 458). Because entities internal to given IHEs demonstrate some responsiveness to each other while fundamentally retaining their individual identities and separateness, they are considered loosely coupled systems (Clark, 1984; Maassen & Stensaker, 2019; Weick, 1976). However, Maassen and Stensaker (2019) state that more recently, the external environment has been directing effort towards increasing the hierarchical governance of universities seemingly to increase coordination and coupling to improve organizational performance.

Governance

As stated by Maassen (2003), “governance is about the frameworks in which universities and colleges manage themselves and about the processes and structures used to achieve the intended outcomes – in other words about how higher education institutions operate” (p. 32). Governance in higher education is at the same time straightforward and somewhat convoluted. Fundamentally, the governing board, be it a Board of Trustees, Board of Governors, or Board of Regents, is the entity legally responsible for the health and welfare of their organization(s) (American Association of University Professors, n.d.). This includes the hiring and firing of Presidents to influence the direction of their institution’s development (American Association of University Professors, n.d.). Governing boards in the U.S. public higher education context are usually “lay boards” who represent the effected citizenry and/or broader constituency of a given institution (Duryea, 1973). Frequently, governing board members are removed from and have never served on the institution’s faculty, thus are unfamiliar with the role and activities of the “production function” of the organization.

While the “Statement on Government of Colleges and Universities” (American Association of University Professors, n.d.), developed jointly by the American Association of University Professors (AAUP), American Council on Education (ACE), and Association of Governing Boards of Universities and Colleges (AGBUC), recognize governing boards as the ultimate institutional authority, the statement also clearly identifies that the management of IHEs is a joint effort. This is because “the variety and complexity of the tasks performed by institutions of higher education produce an inescapable interdependence among governing board, administration, faculty, students, and others.” (American Association of University Professors, n.d.). Accordingly, each level (if thinking hierarchically), or group (governing board, president, and faculty) associated with an IHE has its own responsibilities regarding the functioning of the organization.

A different perspective states that IHEs have traditionally (historically) been governed by dual and parallel management structures (Birnbaum, 1988; Duryea, 1973; Fumasoli, Gornitzka & Maassen, 2014; Larsen et al., 2009; Maassen & Cloete, 2006). Those are the institution's administrative and academic governance structures, with the academic structure being dominant such that:

> "Higher education institutions, especially universities, have traditionally been run by academics, *i.e.* the professoriate. Institutional administration was seen as an 'unavoidable evil' necessary to create the optimal circumstances for the professors to operate autonomously. As such, higher education institutions were professional organisations with one dominant profession, the academic profession." (Maassen & Cloete, 2006, p. 15)

As further stated by Maassen and Cloete (2006), "A core characteristic of professional occupations is that they want not only control over the conditions of their work, but also over the definition of work itself" (p. 15). Generic professionals generally expect three kinds of control. First, they expect regulative control: "professionals want to determine what actions are to be prohibited and permitted, and what sanctions are to be used" (Maassen & Cloete, 2006, p. 15). Second, they expect normative control: "professionals want to determine who has the right to exercise authority over what decisions and actors in what situations" (Maassen & Cloete, 2006, p. 15). Lastly, they expect cognitive control: "the drive to determine what types of problems fall under the professionals' responsibility and how these problems are to be categorised and processed" (Maassen & Cloete, 2006, p. 15). Four additional characteristics specific to college and university professionals are also identified by Maassen and Cloete (2006).

> "First and foremost, it is knowledge that provides the organisational building blocks of these institutions. Secondly, this knowledge-based structure leads to a high level of organizational fragmentation. Thirdly, these institutions have loosely articulated decision-making structures. Finally, change generally takes place in an incremental, grassroots way" (p.15).

As Dziech (2002) summarizes, "The truth is that we [in higher education] resent, and resist, any invasion of privacy – even if we have no right to it in the first place". Thus, as efforts to make IHEs more responsive to their external environments have ensued over the past two decades, ever increasing attention has been paid to the refocusing of power within the academe from the academics to the administrative managers (Jongbloed, Enders & Salerno, 2008).

Public Institutions & "Neo-Rationality"

What has grown increasingly popular in states across the U.S. since the early to mid-1990's is the implementation of accountability (Alexander, 2000; Gumport, 2000; Kezar & Eckel, 2004; Larsen, Famasoli et al., 2014; Maassen & Stensaker, 2009; Ramirez & Christensen, 2013; Ruppert, 1997; Smart & St. John, 1996; Sporn, 1996) and performance funding models, whereby part (5 – 90%) of an institution's public funding is dependent on their performance on pre-defined metrics (Shin, 2009). In many cases, these performance-based accountability measures were adopted in exchange for the promise of increased institutional autonomy; the supposition being that relief from state policies and practices would increase institutional innovation and efficiencies, improving the IHEs ability to reach their performance goals (Larsen et al., 2009; Maassen, 2017; Newman & Couturier, 2002; Shin, 2009). Essentially, this seemingly incongruous exchange seeks to increase the formalization within individual institutions or increase the hierarchical governance and emphasis on goal definition and success of IHEs (Barnetson & Cutright, 2000; Maassen, 2017; Maassen & Stensaker, 2019; Ramirez &

Christensen, 2013), while simultaneously reducing the administrative coupling of those organizations to their state systems.

Maassen and Cloete (2006) state that the imposition of accountability measures marks a transition that has occurred whereby the perception of “higher education as a service-company with society as its marketplace, is becoming the dominant one taking over from the traditional emphasis on academic freedom and collegial self-steering of academics” (p. 8). Gumport (2000) concurs and identifies a trend in the legitimization of the shift in the perception of higher education from functioning as a social institution towards being an industry. Others (Kezar & Eckel, 2004; Maassen & Stensaker, 2019) state that the increased efforts to strengthen hierarchical governance in IHEs to improve organizational performance has resulted in the de-coupling of the “norms, values and understandings of” university bureaucracies from the functioning of their universities (Maassen & Stensaker, 2019, p. 466).

In response to those changing perceptions, Maassen and Cloete (2006) identify specific characteristics that differentiate IHEs from other organizations; IHEs lack “a single, clearly definable production function” (p. 15), exhibit “low levels of internal integration” (p. 15), and the commitment of the academic staff to their profession and discipline trumps their commitment to their institution (Clark, 1984; Maassen, 2017; Maassen & Cloete, 2006; Patterson, Weick, 1976; Rosenberg, 2023). The result of those characteristics is that attempts to implement change from outside are often problematic (Larsen et al., 2009). Recalling Maassen and Cloete’s (2006) earlier declaration regarding the duality of higher education’s governance (i.e. the parallel administrative and academic governance structures), the problems arise from often-indeterminate hierarchical connections between them as well as their conflicting sets of incentives.

So, while the administrative governance structure is incentivized to try and meet externally derived performance measures (increased student enrollment, higher retention and graduation rates, etc. in exchange for institutional funding), it is the academic governance structure that determines the pedagogically appropriate course sizes, criteria for academic success and requirements for degree completion that make performance-based goal attainment possible. Since state distributed funding to IHEs typically does not translate to differentially increased compensation to individuals who may contribute to goal achievement, faculty incentive to "do more" is often lacking.

Accordingly, Maassen and Stensaker (2019) state that "despite several decades with reform initiatives aimed at increasing the organisational parts of universities of which the performance can be steered and judged on the basis of institutional policies, as well as rational assumptions, performance indicators and evaluations" (p. 466), many elements of research universities remain "intractable to analysis through rational assumptions" (Weick, 1976, p. 1). As stated by Patterson (2001), in specific reference to university goals, "The existence of a statement of goals does not, in itself, mean that organization members will subscribe to it" (p. 168). Cabrera et al. (2000) further state that, "organizational units, particularly academic departments, are only marginally driven by the strategic goals and priorities of the University as a whole" (p. 11).

Organizational Culture

> "Organizational culture is the body of solutions to problems that has worked consistently for a group and that is therefore taught to new members as the correct way to perceive, think about, and feel in relation to those problems. Over time, organizational culture takes on meaning so deep that it defines assumptions, values, beliefs, norms, and even the perceptions of participants in the organization. Though culture tends to drop from the

> conscious thoughts of participants over time, it continues to powerfully create meaning for them in their work and becomes 'the rules of the game'" (Owens 1987, p. 197).

Alvesson (2002) states that the concept of organizational culture encompasses the shared values, beliefs, and assumptions that shape employee interactions and decision making. While organizational culture can be a critical driver of performance and cohesion, it is inherently difficult to manage or control due to its abstract and embedded nature. Various works (Alvesson, 2002; Kim, Toh & Baik, 2022) emphasizes that culture is a dynamic system that evolves based on historical context, leadership influence, and external pressures. Alvesson (2002) also asserts that different academic perspectives frame culture in various ways. Those diverse interpretations have sometimes resulted in the dilution of its conceptual clarity (Alvesson, 2002).

To effectively leverage culture as a strategic asset, leaders must recognize its complexity and avoid reducing it to simplistic frameworks or purely behavioral attributes (Alvesson, 2002; Myers, Nyce & Dekker, 2014). Myers et al. (2014) expound on the need to differentiate between cultures and behaviors. They state that while culture influences behavior, it is not synonymous with it; behaviors are tangible actions that may be dictated by formal rules, power structures, or external incentives, whereas culture represents the deeper, ideologically driven frameworks that guide meaning-making and collective identity. Leaders and/or managers who conflate culture with behavior can end up designing superficial interventions that fail to address the root causes of organizational inefficiencies. That said, Kim et al. (2022) indicate in their work that shifting behaviors can indeed become the foundation for cultural changes in organizations. Additionally, while they (Kim et al., 2022) state that there is a considerable paucity of research on how to intentionally create effective cultures, Howard-Grenville, Golden-Biddle, Irwin & Mao (2011) contend that organizational cultural shifts can be accomplished through trainings and other small, interconnected changes that accumulate over time.

Organizational Culture in Higher Education

There is a reasonable amount of literature regarding the need to understand institutional culture in order to implement effective change in higher education (Craig, 2004; Dill, 2012; Kezar & Eckel, 2002; Larsen et al., 2009; Maine, 2019; Maassen, 1996; Smart & St. John, 1996; Sporn, 1996; Tierney, 1988). Larsen et al. (2009) state, “reform failures in higher education are usually explained by the mismatch between reform design and cultural and historical characteristics of higher education institutions”. Tierney (1988) adds that “Our lack of understanding about the role of organizational culture in improving management and institutional performance inhibits our ability to address the challenges that face higher education. As these challenges mount, our need to understand organizational culture only intensifies” (p. 4).

Organizational culture significantly impacts the dynamics and effectiveness of institutions, particularly in complex environments like higher education. Peterson and Spencer (1990) define culture as “the deeply embedded patterns of organizational behavior and the shared values, assumptions, beliefs, or ideologies that members have about their organization or its work” (p.6). These shared characteristics, taught and internalized by members, influence the ways in which individuals perceive and respond to institutional challenges (Alvesso, 2002; Kuh & Whitt, 1988). Culture is integral to fostering a cohesive institutional identity amidst the diverse stakeholder groups inherent in academic settings (Tierney, 1988). Tierney (1988) also noted, “An organization’s culture is reflected in what is done, how it is done, and who is involved in doing it. It concerns decisions, action, and communication both on an instrumental and a symbolic level" (p. 3). And Toma, Dubrow, and Hartley (2005) state, "At universities and colleges, institutional culture conveys a sense of identity (who we are), facilitates commitment (what we stand for), enhances stability (how we do things here), guides sensemaking (how we understand events) and defines authority (who is influential)" (p. 6). Culture, in terms of the "traditions and sets of norms for what constitutes acceptable behaviour" (Maassen, 2017, p. 291), both influences and is influenced by the organizational and governance structures within which it resides (Schein, 1992; Smart & St. John, 1996).

While only a limited amount of literature has been devoted to the study of the culture of institutions of higher education as an intrinsic element of the "industry", work does exist in this area (Coman & Bonciu, 2016; Maassen, 1996; Sporn, 1996; Tierney, 1988). A few theoretical frameworks are commonly used to analyze organizational culture in higher education. Notably, Tierney's (1988) framework identifies six cultural dimensions (mission, environment, socialization, information, strategy, and leadership), each playing a unique role in defining the cultural profile of an institution. Complementing Tierney's work, Bolman and Deal's (2017) four-frame model (structural, human resource, political, and symbolic) aids in examining the symbolic and operational elements of university culture, which resonate particularly well with academic institutions. Schein (2010) further delineates culture through three levels (artifacts, espoused values, and basic assumptions), offering insights into both visible and deeply embedded aspects of institutional practices. Clark (1983) also identified three levels of analysis for higher education culture (the national system level, the organizational/institutional level, and the disciplinary level), but in a completely different dimension than Schein. Sporn (1996) also identifies the faculty and administration as potential additional levels of cultural analysis within

IHEs, and some of the earliest studies of college and university cultures concerned student cultures (Maassen, 1996; Tierney, 1988).

Key dimensions of organizational culture in higher education include mission, governance, communication, and diversity. The mission statement, often seen as the core of an institution's cultural identity, guides members' actions by outlining values and goals (Bergquist & Pawlak, 2008). As identified above, governance, specifically shared governance, relies on the collaborative involvement of faculty, administrators, and governing boards in decision-making processes, fostering values of participation and academic freedom (American Association of University Professors, n.d.; Kezar & Eckel, 2004). Communication, formal and informal, reinforces shared norms and ensures alignment in institutional practices (Morgan, 2006). Lastly, diversity and inclusion represent an increasingly prominent cultural dimension, reflecting the need for higher education institutions to create environments that are inclusive of all identities (Smith, 2020).

Organizational culture also impacts academic performance and student satisfaction as well as organizational change. Tinto (1993) suggests that a supportive culture enhances student retention and success by fostering engagement and motivation, while a strong alignment between faculty values and institutional culture promotes productivity and satisfaction (Austin, 1990). Kuh et al. (2005) emphasize that student-centered cultures are essential for achieving high levels of student satisfaction, particularly those that value open communication and inclusivity. Additionally, organizational culture plays a crucial role in shaping institutional change; a culture that aligns with change initiatives can foster innovation, while a misalignment may hinder progress (Schein, 2010).

In alignment with earlier assertions that faculty sense of affiliation or belonging resides more within their discipline than their institutions, some (Becher, 1981; Gaff & Wilson, 1971; Silver, 2003) have declared that universities have no institutional culture. The belief is that because "the university is a 'collection' of groups, all with their own touchstones of academic and professional behaviour, scholarly values and critical endeavour" (Silver, 2003, p. 166), "the symbols and myths shared most keenly by individuals and groups in an institution may not be those most treasured by the institution itself" (Silver, 2003, p. 158-159). Tierney (1988) also acknowledges the existence of what he refers to as "Subset: subculture, anticulture, or disciplinary culture" (p. 18) that reside within institutional cultures. While Silver (2003) suggests that small, focused IHEs (historically or contemporarily) may have been or be capable of claiming institutional cultures, modern multiversities, with their anarchic structure, are simply too diverse to be able to sustain a cohesive lore.

Dill (2012) somewhat disagrees with Silver's (2003) declaration. First, Dill (2012) sees increasing efforts by institutions to facilitate the transmission of organizational wide norms and values regarding teaching and research; some of it externally driven (as he notes is the case with standardization of ethical norms of research through the implementation of required Institutional Review Boards), and some internally driven through "the canonization of exemplars" (p. 227) and other ceremonies designed to demonstrate and reinforce institutional values. Second, Dill (2012) believes that the increasing interdisciplinarity of academic programs is eroding the unity of disciplinary cultures. As faculty across disciplines increasingly interact and collaborate to deliver integrated curricula, shared norms and values need to be developed and attended to. Craig

(2004), in a similar statement on institutional culture, affirms that "the more successful campus cultures are those that promote cooperation while recognizing individual achievement" (p. 84).

Despite its importance, the study of organizational culture in higher education faces challenges. Due to the diversity of institutional types and missions, there is no universally applicable cultural model for all universities and colleges (Dill, 1982). Furthermore, some critics argue that the focus on organizational culture can reinforce existing power structures, marginalizing dissent and potentially stifling academic freedom (Giroux, 2002).

Elements of Institutional Culture

Tierney (1988) states that culture within an organization is a function of multiple variables such that institutions with similar missions and curricula may have vastly different cultures. It is the interaction and interpretation of key events such as the formation of the organization, significant personalities (typically founders or leaders), organizational achievements, important transitions or events (significant growth, decline, etc.) that define the culture of an institution (Maine, 2019). In an early effort to identify how to define the culture of IHEs, Tierney (1988) identified a framework of organizational culture (Table 1), or the essential dimensions of culture that he believed necessary for researchers to understand in order to be able define the culture of a given institution. Each of the concepts, or cultural terms identified in the framework occurs in higher education settings, "yet the way they occur, the forms they take, and the importance they have, differs dramatically" (Tierney, 1988, p. 9). As demonstrated in his work, Tierney (1988) saw the study of the culture of IHEs akin to anthropologic field studies, to include the kind of "rich, thick" descriptive output common in that discipline.

Table 1. A Framework of Organizational Culture (Tierney, 1988)

Concept	Dimension
Environment:	How does the organization define its environment?
	What is the attitude toward the environment?
	(Hostility? Friendship?)
Mission:	How is It defined?
	How is it articulated?
	Is it used as a basis for decisions?
	How much agreement is there?
Socialization:	How do new members become socialized?
	How is it articulated?
	What do we need to know to survive/excel in this organization?
Information:	What constitutes information?
	Who has it?
	How is it disseminated?
Strategy:	How are decisions arrived at?
	Which strategy is used?
	Who makes decisions?
	What is the penalty for bad decisions?
Leadership:	What does the organization expect from its leaders?
	Who are the leaders?
	Are there formal and informal leaders?

Kezar and Eckel (2002) further identify unique (relative to corporate organizations) contributing factors to IHEs culture as higher education's governance structure, decision making processes (typically far more collaborative than found in more rational, corporate environments), and funding models (most IHEs receive their funding from one or a combination of the following three mechanisms: 1) student tuition, to include scholarships funded internally or externally, 2) state appropriations, and/or 3) grants and contracts).

Institutional Cultural Typology Models

One of the early and oft cited classifications of IHE cultures was developed by Bergquist (1992). The "four cultures of the academy" he defined were essentially transformations of Birnbaum's (1989) organizational structures, thus blurring the line between organizational structures and cultures. Bergquist's (1992) four archetypes include: the managerial culture, collegial culture, developmental culture and negotiating culture.

Managerial culture focuses on goals, efficiency, supervision and fiscal responsibility, as does Birnbaum's (1988) bureaucratic organization. The collegial culture values shared governance and decision making, and scholarly productivity and is similar to Birnbaum's (1988) collegial organization in that it is centered around the faculty. The negotiating culture involves interest groups, power, mediation, and the formation of equitable policies and procedures, which is equivalent to Birnbaum's (1988) political organizational structure. Finally, Bergquist's (1992) developmental culture is oriented towards the personal and professional growth of all members of the institution, which could be considered a different way of perceiving Birnbaum's (1988) anarchical organization. Maassen's (1996) critique of Bergquist's work includes the lack of theoretical assumptions underpinning the classes, thus he considers their determination to be arbitrary. Kezar and Eckel (2002) also found Bergquist's classifications to be general enough that they "masked many of the complexities of individual institutional cultures" (p. 439).

Sporn (1996) concurs that cultures of IHEs are largely unique to each individual institution. Sporn (1996) recognized previous efforts to "analyze culture by observing patterns of behavior, listening to organizational stories, or conducting in-depth interviews" (p. 48) and the use of "indirect methods such as observation, construction of typologies, or multivariate methods" (p. 48) to objectively assess the culture of IHEs. However, she ultimately developed her own typology of university cultures based on measures of the strength of an institution's culture and its orientation; whether internal or external. The four typologies she defined differentiate universities as having: weak and internally focused cultures, weak but externally focused cultures, strong and internally focused cultures, and strong, externally oriented cultures (Sporn, 1996). The strength of a culture was defined as one where values, beliefs and attitudes were congruent across and in alignment with the policies and practices of the organization (Smart & St. John, 1996; Sporn, 1996). Interestingly, in the assessment of her own institution's culture, Sporn (1996) classified it as weak and leaning towards an external focus. In a precursive nod to Silver's (2003) work, Sporn (1996) identified the following specific findings: 1) "The concept of the university as a whole barely exists and has no meaning for the university members.", 2) "Depending on the hierarchical position within the university, professors, assistant professors, and administrators form subcultures.", and 3) "The values and beliefs of these subcultures differ significantly" (p. 51).

A very similar typological model of university culture was explored by Smart and St. John (1996). The model they studied, proposed by Cameron and Ettington (1988), also identified four typologies based on two dimensions. As with Sporn's, one of those dimensions focused on the institution's internal/external focus; more specifically, whether the institution had an "internal emphasis, short-term orientation, and smoothing activities at one extreme and those with an emphasis on external positioning, long-term orientation, and achievement-oriented activities at the other end of the continuum" (p. 221). The second dimension of Cameron and Ettington's (1988) model "distinguishes between cultures characterized by flexibility, individuality, and spontaneity at one extreme and those characterized by stability, control, and predictability" (p. 221) at the other. Based on where an institution's culture was measured along those two dimensions, it would be classified as having the form of a Clan, Adhocracy, Hierarchy, or Market (Figure 1). The four typologies of Cameron and Ettington's (1988) model also generally map onto Birnbaum's (1989) organizational structures with Clan to Collegial, Adhocracy to Anarchical, and Hierarchy to Bureaucratic, and (more loosely) the Market typology to the Political structure.

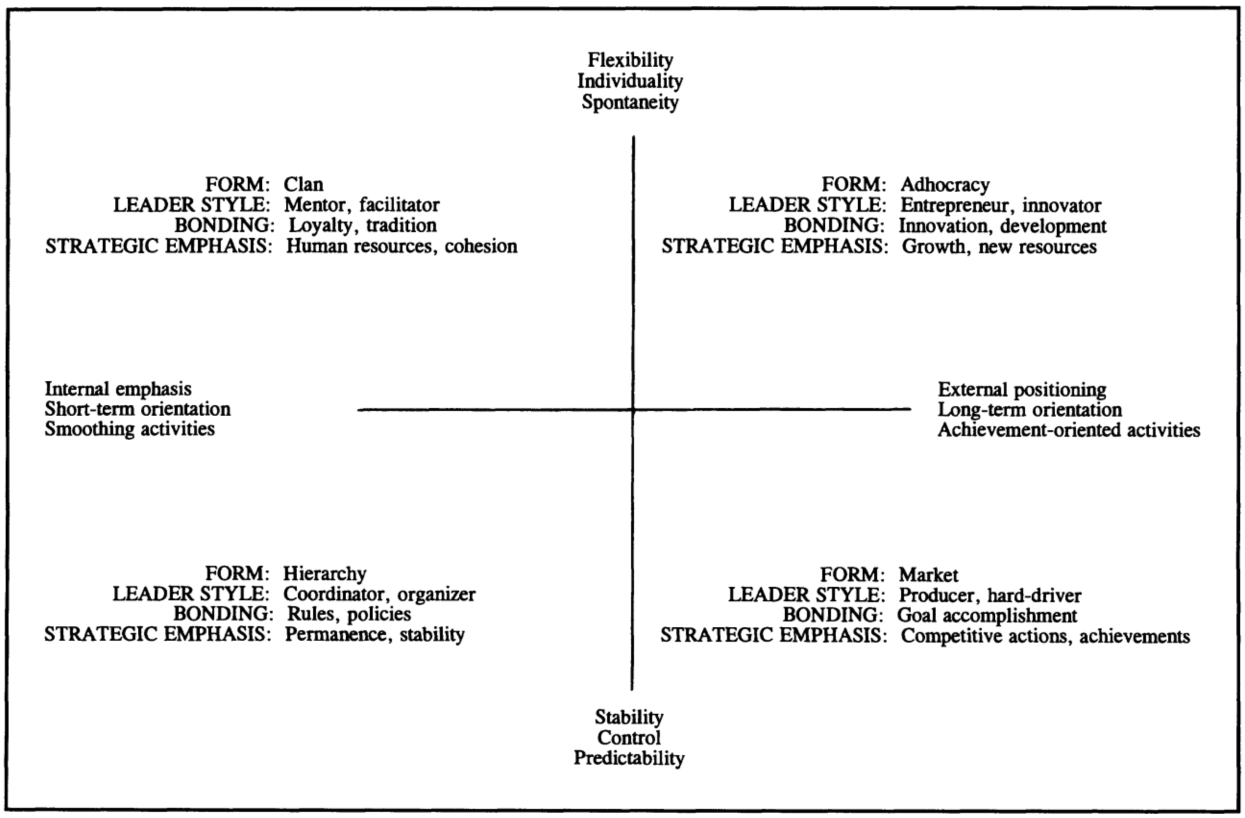

Figure 1. A Model of Cultural Congruence for Organizations (Smart & St. John, 1996)

After applying the methodology to the sample of 334 IHEs, Smart and St. John (1996) declared institutions with a primarily "Clan" culture to be the dominant form within the American higher education system at that time, making up almost two-thirds of their sample (210 of the 334 institutions). Predominantly hierarchical institution types were next most frequently occurring (N = 68), followed by predominantly adhocracies (N = 33), and finally those institutions classified as predominantly market cultures (N = 21) (Smart & St. John, 1996).

Similar to Birnbaum's (1989) assertion that no higher education institution is a pure expression of any of the organizational models he defined, Smart and St. John (1996) were also clear that most institutions have characteristics of more than one culture type. It should also be noted that the premise for the classification of "things" is that on average, the difference within groups is smaller than the differences between groups (Smart & St. John, 1996). Caution though should be used when trying to discriminate between "boundary cases", in that institutions close to each other along a classification boundary are likely to be more similar to each other than they are to the mean of their group (Harmon, McKnight, Hildreth, Godwin & Greenwood, 2019).

Organizational Culture at Montana State University

One, among many possible determinations of organizational culture (Kim et al., 2022) was conducted at MSU by Sybesma (2022). In her work exploring organizational culture in the Jake Jabs College of Business & Entrepreneurship (JJCBE), Sybesma (2022) opted to apply Cameron and Ettington's (1988) cultural congruence model. In her mixed methods study, Sybesma (2022) stated that faculty respondents identified the current state of their college culture as having the clan or hierarchical typology (the mean construct scores of those two typologies were statistically equivalent). The adhocracy typology scored notably lower than both the clan and hierarchy typologies but was higher than the market typology, indicating that the market culture was the least dominant of JJCBE's organizational cultures. In terms of the faculty's preferred cultural typology state, participants had a strong preference for the clan typology

(Sybesma, 2022). Sybesma (2022) also identified that the market typology was the least preferred cultural typology by respondents.

While acknowledging that the concept of culture means different things from different disciplinary perspectives (Alvesson, 2002; Kim et al., 2022) and that some authors (Becher, 1981; Gaff & Wilson, 1971; Silver, 2003) assert that institutional cultures within IHEs are supplanted by disciplinary based cultures, this author suggests that at the high/generic level of culture definition encapsulated by Cameron and Ettington's (1988) cultural congruence model, the "culture" identified by Sybesma (2022) can probably be (generally) extrapolated from the JJCBE faculty to the faculty across much of the rest of the institution. When we further consider the different goals and incentives that exist between the parallel administrative and academic governance structures defined by Maassen and Cloete (2006), the author further suggests that the administrative structure (institutional "Leadership") is likely more interested in an institutional alignment with a "market culture typology emphasizes competitiveness, goal accomplishment, customer orientation and environmental interaction" (Sybesma, 2022, p. 27).

Summation

Twenty years after some of his earlier work on institutional culture, Tierney (2008a) stated that "rather than a search for universal underlying structures or meanings that pervade all organizations, the focus is on the study of individual organizational cultures as unique and autonomous systems of meaning" (p. 27). So, in terms of defining the culture of higher education institutions, there seems to be a "murky middle" within which definition is elusive. In other words, broad statements can be made about various sub-classes of institutions (e.g. doctoral institutions generally value the creation and dissemination of knowledge, while community colleges generally champion the value add of teaching to support student success and socioeconomic mobility), and more specific cultural delineations can be ascribed to academic disciplines. But, individual institutions have different disciplinary compositions, by subject and size, different distributions of faculty types (tenured, tenurable, and non-tenure track) that have differing understanding of the meaning and values inherent to their roles and the institutions they work in, as well as different historical contexts that influence the shared understanding about their institution's role and goals.

One of Maassen's (1996) significant critiques of the higher education culture literature (and the organizational culture literature more generally) is that culture is often treated as both an independent and dependent variable. "It is as if especially the organizational culture proponents want to argue that culture can explain (almost) everything and (almost) anything can be explained by cultural aspects" (Maassen, 1996, p. 157). Maassen (1996), however, sees culture as an independent variable, or control over the administration, curriculum, and student life. Peterson & Spencer (1990) moderate that stance when they state, culture provides a sense of organizational identity and "organizational identity is not completely static and may mature or change over time" (p. 4).

Much of the work on institutional cultures in higher education since the 1980's has been conducted with the idea that institutional effectiveness could be increased if managers of institutions could identify and manipulate their organization's culture (Kezar & Eckel, 2002; Maassen, 1996; Peterson & Spencer, 1990; Smart & St. John, 1996; Tierney, 1988). While researchers have made some efforts to classify IHEs into cultural categories, they end up being general enough so as not to be functionally useful. If any consensus exists around institutional cultures in higher education, it is that there is such variability in the elements that contribute to the development and management of culture in IHEs that each institution needs to have its culture assessed individually in order for management to have sufficient grounds upon which to design effective approaches to implementing organizational change.

Understanding organizational culture within higher education offers valuable insights for institutional leaders aiming to foster positive environments. As the literature highlights, leaders who are attuned to the cultural dynamics of their institutions are better equipped to mobilize support for change, address conflicts, and sustain engagement among diverse stakeholders (Bolman & Deal, 2017). Emphasizing an inclusive, flexible, and mission-driven culture can help institutions navigate the complexities of a globalized educational landscape, enhancing their adaptability and resilience.

Organizational Change

The majority of planned organizational change initiatives either come up short or simply fail (Collins & Lazier, 2020; Kang, Chen, Svihla, Gallup, Ferris & Datye, 2020; Hayes, 2022; Kezar, 2011; Rosenberg, 2023; Scott & Davis, 2016). This is likely the reason so much has been written about how to effectively implement organizational change (Collins & Lazier, 2020; Hayes, 2022; Holman, Devane & Cady,2007; Rosenberg, 2023; Senge, 2006). Fundamentally though, as Collins and Lazier (2020) identify, the probability of a change initiative being successful is bolstered by the presence of four things: a shared vision, the right people to carry out that vision, effective communication and trust.

Myers et al. (2014) state that leaders who attempt to "change culture" by enforcing new policies or encouraging different behaviors risk overlooking entrenched power dynamics and social hierarchies that continue to shape decision-making and workplace interactions. They (Myers et al., 2014) further express that for meaningful organizational change to occur, organizational leaders must distinguish between culture as an ideological force and behavior as an output, ensuring that interventions align with both the underlying belief systems and the operational mechanisms that sustain them. Others (Howard-Grenville et al., 2011; Kim et al., 2022), however, would suggest that behaviors can also be inputs in the culture change process, so while behaviors and culture are not interchangeable, there is certainly a relationship between the two and causality may be bidirectional (culture can change behaviors and behaviors can change culture).

Organization Change in Higher Education

Organizational culture is a critical factor in shaping the process and outcomes of organizational change in higher education. As Schein (2010) notes, culture can either facilitate or hinder change, depending on its alignment with the goals and strategies of the change initiative. Institutions with a flexible and adaptive culture are more likely to successfully navigate change and innovation, while those with a rigid and resistant culture may struggle to implement new policies, practices, and technologies (Kezar, 2001; Rosenberg, 2023).

Effective change management in higher education requires an understanding of the institution's cultural dynamics and the ability to align change efforts with existing cultural values and norms. Leaders who are attuned to the cultural context of their institutions are better equipped to mobilize support, address resistance, and achieve sustainable change (Bolman & Deal, 2017). As Curry (1992) states, “The measure of organization members' commitment to change is related directly to the extent of their participation in decisions governing the process." (p. 25).

Historical Context of Organizational Change in U.S. Higher Education

The U.S. higher education system has undergone numerous transformations since its inception, driven by factors such as policy changes, technological advancements, and shifts in societal expectations (Thelin, 2019). From the establishment of colonial colleges to the expansion of land-grant universities, higher education institutions have continuously evolved to address emerging challenges. However, each wave of change has met with resistance, often rooted in the preservation of academic traditions and institutional autonomy (Geiger, 2000; Rudolph, 2021; Thelin, 2019; Veysey, 1965).

The post-World War II era marked a significant period of expansion and change in higher education, with the GI Bill facilitating a surge in college enrollment and the subsequent need for institutional expansion (Best, 1988; Burke, 1982; Freeland, 1997; Geiger, 2014; Godwin, 2008). During this time, resistance often manifested in the form of faculty opposition to the corporatization of universities and the perceived encroachment on academic freedom. The late 20th and early 21st centuries have seen further changes, including the rise of online education, increased emphasis on diversity and inclusion, and the growing influence of market-driven models (Slaughter & Rhoades, 2004). Each of these developments has been met with varying degrees of resistance, reflecting the complex interplay between tradition and innovation in higher education.

Change in Higher Education

Organizational change in higher education is a dynamic, multifaceted process that profoundly influences the structures, operations, and missions of academic institutions. Changes can be driven by external pressures like funding shifts, evolving student demographics, technological advancements, and societal expectations, or by internal motivations to enhance efficiency, improve student outcomes, and boost faculty satisfaction (Kezar, 2018). Recognizing and adapting to these forces requires comprehensive approaches that involve strategic planning, leadership, and alignment with institutional goals (Kane & Orszag, 2003).

One of the foremost drivers of change in higher education is the financial landscape. With decreasing public funding, especially at public universities, institutions are under pressure to increase tuition and explore alternative revenue sources, which directly impacts student access and affordability (Johnstone & Marcucci, 2010). Financial constraints create a pressing need for more efficient resource allocation and increased accountability to stakeholders (Larsen et al., 2009; Shin, 2009; Shin et al., 2024). Demographic shifts also necessitate organizational change, as institutions work to meet the needs of a more diverse student body that includes first-generation, older, and underrepresented students (Gándara & Contreras, 2009). This demographic evolution challenges institutions to adapt recruitment and retention strategies, expand student support services, and foster an inclusive campus culture. For many institutions, demographic shifts signify the importance of culturally responsive practices that encourage participation and success for a broader student population.

As identified previously, societal expectations for accountability and demonstrable outcomes are reshaping higher education as stakeholders demand value and workforce readiness from academic programs (Hersh & Keeling, 2013). Institutions are under increasing scrutiny to provide evidence of student success and institutional efficacy, leading to a stronger emphasis on outcome-based education and assessment. This trend has spurred initiatives aimed at transparency, program evaluation, and career readiness, aligning academic offerings with labor market needs (Kezar & Eckel, 2002).

Implementing organizational change in higher education is not without challenges. A primary obstacle is institutional culture, often characterized by deeply rooted traditions and resistance to change among faculty and staff (Birnbaum, 2000; Rosenberg, 2023). Resistance can be driven by fears of losing autonomy or compromising academic standards, making open communication, stakeholder engagement, and participatory decision-making essential to gaining buy-in and reducing friction (Smith, 2019). With the exception of the concern regarding the possibility of compromising academic standards, the statement above could be applied to most other types or organizations (Collins & Lazier, 2020; Hayes, 2022).

Governance structures further complicate change efforts, as higher education institutions typically feature decentralized decision-making processes that involve various stakeholders, including faculty, trustees, and external bodies (Tierney, 2008b). This complexity can slow down decision-making and hinder consensus-building, particularly when conflicting interests and priorities arise between departments or administrative units (Schein, 2010). To navigate these challenges, institutions must employ collaborative governance models that promote shared responsibility and align change initiatives with the institution's mission (Collins & Lazier, 2020).

Resource constraints pose another barrier to successful change, particularly in the context of limited financial and personnel resources. Implementing change often requires significant investments in time, funds, and personnel, which can be difficult to secure in the resource constrained environment IHEs typically find themselves in. Balancing financial sustainability with the need to support change initiatives demands careful resource allocation and prioritization to avoid overburdening faculty and staff while maintaining institutional quality (Kane & Orszag, 2003).

Leadership plays a critical role in facilitating organizational change in higher education. Leaders must articulate a compelling vision, communicate it to all stakeholders, and build a coalition of support across the institution (Collins & Lazier, 2020; Kezar & Eckel, 2002). Leadership practices focused on building trust, transparency, and inclusivity are vital for overcoming resistance and creating a sense of shared purpose (Collins & Lazier, 2020; Hayes, 2022).

Additionally, effective strategic planning should also be a foundational element for managing change, as it aligns initiatives with institutional goals and ensures a coherent approach across different departments (Hinton, 2012). Change management frameworks, such as Kotter's Eight-Step Change Model (Kang et al., 2020), Lewin's three-step process of unfreezing the existing behavior, making the change, or moving the behavior to a new level, and refreezing the behavior at a new level, Lewin's Force Field Analysis and many others, provide structured approaches for implementing change (Hayes, 2022). Such models highlight the importance of preparing for change, managing the transition process, and embedding new practices into the institutional culture to achieve lasting impact (Hayes, 2022).

Continuous assessment and evaluation are indispensable for successful change initiatives. By monitoring progress, gathering feedback, and analyzing data on key performance indicators, institutions can identify areas for improvement and make necessary adjustments. Effective assessment practices ensure that change efforts remain aligned with institutional objectives and respond to evolving needs, thereby fostering a culture of continuous improvement.

Resistance to Change in Higher Education

Resistance to change is not unique to higher education (Collins & Lazier, 2020; Hayes, 2022; Milkman, 2021; Rosenberg, 2023; Scott & Davis, 2016). However, resistance to change is a prominent challenge within IHEs that is deeply rooted in the sector's traditions, decentralized structures, and (espoused) commitment to academic freedom. This resistance manifests in various forms, ranging from passive disengagement to overt opposition, posing significant barriers to innovation and adaptation.

Resistance to organizational change in higher education is often tied to its historical context. Since the establishment of colonial colleges, institutions have been faced with challenges like policy reforms and increasing access to education and often or consistently faced internal pushback. For example, the post-World War II surge in enrollments necessitated expansion, but the shift toward mass education encountered resistance from faculty concerned about academic standards and autonomy (Thelin, 2019). Similarly, contemporary changes such as the rise of online learning and diversity initiatives have been met with skepticism, reflecting the tension between tradition and innovation (Slaughter & Rhoades, 2004). Often, organizational factors play a critical role as structural inertia within institutions, reinforced by tenure systems and shared governance, slows the pace of change (Birnbaum, 1988). Ironically, despite considering themselves drivers of intellectual and social change, historically, change in the academy (in the United States) has typically been driven by external forces; principally the U.S. government (Geiger, 2000; Thelin, 2019).

At the individual level, fear of the unknown, job insecurity, and disruptions to established routines also fuel resistance. Faculty members often view changes as threats to their academic autonomy and roles (Allen & Seaman, 2017; Rosenberg, 2023). Fear associated with loss aversion and more specifically, loss of status and status quo further exacerbates this resistance, causing individuals to focus more on potential losses than gains (Kahneman, Knetsch, & Thaler, 1991). Power dynamics add complexity; stakeholders who perceive potential losses in influence or resources often resist initiatives actively (Dent & Goldberg, 1999). Resistance to change is also endemic when individuals or groups feel excluded from the decision-making process. Wells and Picou (1982) document the impact of limited stakeholder involvement in a small college's transition to an innovative educational model, resulting in significant pushback and delays.

Resistance manifests both passively and actively. Passive resistance, such as ignoring new policies or disengaging from discussions, can delay progress subtly but significantly (Oreg, 2003). Conversely, active resistance—through protests or public criticism—is more visible but often disrupts change processes more acutely (Kezar, 2014). Both manifestations can also effectively halt change initiatives altogether. Therefore, effectively addressing both forms of resistance requires a nuanced recognition and appreciation of the underlying factors.

Theoretical frameworks potentially offer valuable insights for managing resistance. At the most generic level, Lewin's Management Model highlights the importance of "unfreezing" old patterns before implementing change, a step particularly challenging in higher education due to entrenched traditions (Burnes, 2004; Rosenberg, 2023). At a more applied level, Lewin's Force Field Analysis (Figure 2) frames change as a dynamic balance of forces driving movement toward a goal (driving forces) and forces resisting change (restraining forces), with change occurring when driving forces outweigh restraining forces. Functionally, there are two ways for change managers to try and unbalance the driving and restraining forces. They can try and increase the driving forces, though the response is often an equal if not greater increase in resistance, or as is more often effective, they can try and identify ways to reduce the resisting forces. Similarly, Kotter's Eight-Step Change Model emphasizes the need for strong leadership, clear communication, and stakeholder involvement to create a shared vision and build support (Collins & Lazier, 2020; Kotter, 1996; Schell, 2019). Oreg's (2003) Multidimensional Model further underscores the difficulty of addressing resistance, involving cognitive, emotional, and behavioral components, necessitating tailored strategies for different stakeholders.

Effective strategies to mitigate resistance include engaging stakeholders early in the change process, fostering trust through transparent communication, and providing adequate support and training (Collins & Lazier, 2020). Building coalitions of influential advocates within the institution can also help overcome resistance by aligning diverse interests with the change initiative (Kezar, 2014). By addressing both the practical and emotional concerns of stakeholders, leaders can reduce barriers and foster a culture of adaptability. Fundamentally, resistance to organizational change in higher education reflects a complex interplay of individual, organizational, and cultural factors. Understanding its sources and manifestations, alongside applying theoretical frameworks and strategic interventions, can increase the probability of the successful outcome of change initiatives. Managing organizational change requires an intentional blend of strategic planning, cultural adaptation, and leadership engagement (Collins & Lazier, 2020; Hayes, 2022). Successful change hinges on understanding its multifaceted nature and applying a structured approach that considers the unique context of the organization.

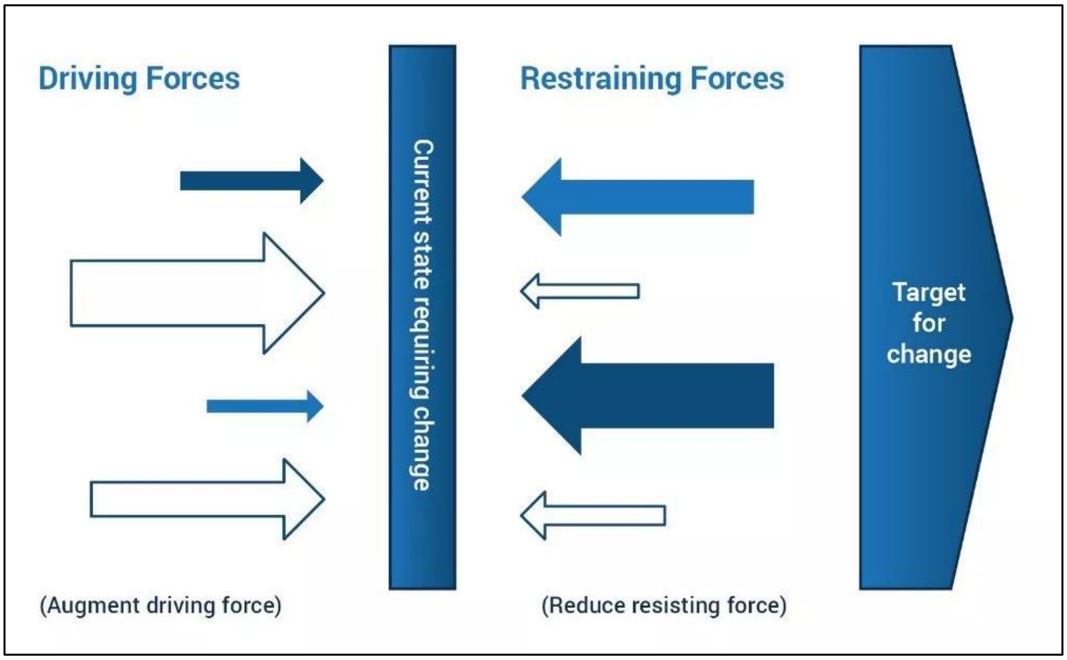

Figure 2. Lewin's Force Field Analysis (ILX, 2019)

The organizational context, including mission, culture, and structure, significantly increases the probability of successfully institutionalizing change initiatives. For instance, Roberts, Wergin and Adam (1993) note that tailoring reward systems to align with faculty roles and institutional goals enhances the climate for change in academic settings. However, to achieve long-term success, organizations must embed change into their culture and operational practices (Collins & Lazier, 2020; Hayes, 2022). This requires continuous communication, reinforcement of new behaviors, and alignment of incentives with the desired outcomes. Leadership must not only champion change but also institutionalize practices that sustain it over time.

Summary

The organizational dynamics of higher education institutions (IHEs) are shaped by their history, structure, and culture. These elements intertwine to create complex systems that both reflect and influence their capacity for change.

Classification systems, such as the Carnegie Classification of Institutions of Higher Education, provide frameworks for categorizing IHEs based on shared characteristics like institutional control, size, research activity, etc. These classification systems highlight the diversity of institution types when comparing between higher education categories, yet also point to a lack of meaningful differentiation among institutions within the same category. This tension underscores the importance of cultivating distinctiveness to clarify institutional identity and enhance competitive positioning.

Differentiation is a strategic undertaking that requires balancing legitimacy with uniqueness. Institutions must ensure the remain aligned with peer standards to maintain credibility while carving out distinctive niches to potentially attract additional resources, students, and faculty. Achieving this balance is challenging, as being too similar diminishes competitiveness, while excessive deviation from the mean risks losing legitimacy. Differentiation also serves to increase internal support by building institutional identity which fosters loyalty among faculty, staff, and students.

The structures of IHEs further illustrate their complexity. Borrowing from Birnbaum's models, institutions can exhibit bureaucratic, collegial, political, or anarchical organizational patterns. These models often coexist within a single institution, varying across departments or between levels of an institution. At the heart of these structures lies organizational culture, which influences how institutions operate and respond to challenges. Culture encompasses shared assumptions, values, and norms that guide decision-making and behavior. It provides a sense of identity and continuity while also shaping perceptions of institutional priorities. Constructs like Tierney's (1988) framework of organizational culture and Smart and St. John's (1996) model of cultural congruence help inform our understanding of the interplay, revealing the deep-rooted traditions and evolving practices that define IHEs. However, the presence of subcultures, particularly disciplinary ones, can make efforts to build cohesive institutional cultures difficult, to say the least.

Change within IHEs is fraught with challenges. Financial pressures, demographic shifts, and societal expectations drive the need for innovation, yet deeply entrenched traditions and decentralized governance structures often impede progress. Resistance to change, whether passive or active, is a pervasive barrier that change managers must navigate with care. Successful and lasting change management often requires strong leadership, inclusive planning, and alignment with the institution's cultural and strategic goals.

CHAPTER THREE

METHODS

Introduction

The purpose of this cross-sectional quasi-experimental study is to identify whether the Early Career Faculty Success (ECFS) program at Montana State University has had an impact on the culture of new faculty joining MSU who have participated. For the purposes of this study, "culture" is being operationalized as measurable interactions with the institution's faculty productivity reporting tool, Faculty Success. Comparative associational analysis (Gliner et al., 2017) of the interactions between new faculty (i.e. those who have participated in the ECFS program and those who have not) and Faculty Success will be conducted. A comparison of the self-reporting of data elements used to measure progress on the institution's strategic plan will also be conducted. Finally, the two groups will be compared to try and discern whether there are any significant differences in some of the demographic characteristics between those who participated and those who did not.

Specifically, the following research questions will be addressed in the study: 1) Do faculty who participated in the Early Career Faculty Success program engage with the faculty productivity reporting tool (Faculty Success) at a greater rate than faculty who did not participate in the ECFS program, 2) Do faculty who participated in the ECFS program report more activities that reflect the kinds of things the institutions strategic plan intends to promote, and 3) Is there a difference in the demographic composition (faculty tenure status, gender, race/ethnicity, college) of participants compared to their non-participating new-faculty peers?

Design & Rationale

In this cross-sectional quasi-experimental design, all three research questions will be addressed using inferential statistics (e.g. weighted linear regression, Chi-square) to identify whether differences exist between those new faculty (both Tenure-track and Non-tenure track) who did and those new faculty who did not participate in the ECFS program between the four academic years between 2020-2021 and 2023-2024.

According to Gliner et al. (2017), “The quasi-experimental research approach is similar to the randomized experimental approach [in that there is an active independent variable] but fails to satisfy the condition of random assignment of participants to groups” (p. 60-61). In this case, the active independent variable is participation in the ECFS and the groups, rather than being randomly assigned as they would be in a randomized experimental approach have self-selected into the two groups; those who did and those who did not participate in the EPCF program. Unfortunately, the self-selection into groups places this study into what Gliner et al. (2017) classify as a “posttest-only nonequivalent groups design” (p. 72-73), which is a subcategory of what they define as a quasi-experimental design with major limitations (p. 70). The essential problem and weakness in this design is that no initial equivalence can be assumed relative to the groups being compared who, in this case, may differ in intrinsic and extrinsic motivation to participate in the ECFS program (Achen, 1986; Gliner et al. 2017).

Because selection bias is endemic to quasi-experimental studies (Achen, 1986) Inverse Probability of Treatment Weighting (IPTW) will be used to reduce that bias and approximate the conditions of a randomized experiment. IPTW is based on propensity scores, which estimate the probability that a unit (e.g., a person, etc.) receives a treatment given observed covariates

(Austin, 2011; Chesnaye, Stel, Tripepi, Dekker, Fu, Zoccali & Jager, 2022; Rosenbaum & Rubin, 1983). The goal of IPTW is to balance the distribution of these covariates across treatment groups, mimicking the balance that would occur in randomized experimental studies (Austin, 2011; Austin & Stewart, 2015; Chesnaye et al., 2022; Hernán & Robins, 2006).

Research Context

Setting

Some might consider higher education a crowded enterprise ("industry") in the United States (Gumport, 2000; Weerts, Freed & Morphew, 2014). For the 2021-2022 academic year, the National Center for Educational Statistics identified that there were 3,898 two and four-year degree granting institutions of higher education (IHEs) eligible to participate in U.S, federal financial aid programs (2023-2024 Almanac Issue, 2023).

Montana State University is a land grant university located in Bozeman, Montana. It was established in 1893 through the Morrill Act of 1862 (MSU University Data & Analytics (a), n.d.). In its 2021 iteration, the Carnegie Classification of Institutions of Higher Education classified MSU as an R1: Doctoral Universities – Very high research activity institution (Carnegie Classification of Institutions of Higher Education, n.d.). It is composed of seven academic colleges (College of Agriculture; College of Arts & Architecture; College of Letters & Science; College of Education, Health & Human Development; Jake Jabs College of Business & Entrepreneurship; Norm Asbjornson College of Engineering; and the Mark and Robyn Jones College of Nursing).

Montana State University had a Fall 2024 total student headcount enrollment of 17,144: 15,053 (87.8%) undergraduate students, and 2,091 (12.2%) graduate students. The student population was 47.7% female, 51.3% male, and 1.0% Not identified or Non-binary. Resident, or in-state students, accounted for 49% of the total student population, with 51% of the students coming from out-of-state. Overall, 2.4% of the student population were international students (MSU University Data & Analytics (b), n.d.).

In terms of faculty appointment type, MSU had a headcount of 597 tenured or tenurable faculty (580 full-time and 17 part-time) and 768 non-tenurable faculty (362 full time and 677 part-time). Based on full time equivalency (FTE), tenured and tenurable faculty account for 54.4% (592.7 FTE) of the total faculty FTE while non-tenure track faculty account for 45.6% (496.8 FTE). By type and gender, 51.8% of MSU's tenured and tenurable faculty were male, while 48.2% were female. In the non-tenurable faculty ranks, 62.4% were female while 36.8% were male and 0.8% had no associated or non-binary gender. The distribution of faculty (tenured, tenure-track and non-tenure track) by broad disciplinary area (colleges) is in Table 2. (MSU University Data & Analytics (b), n.d.)

Strategic Plan

The current strategic plan, Choosing Promise, was developed between November 2017 and November 2018. The strategic planning committee designated to facilitate its development was composed of 10 individuals: a representative from the Provost's Office, a Dean, two Department Heads, the Chair of the Faculty Senate, the President of the Associated Students of Montana State University, a representative from the University Budget Office, Two representatives from the Office of Planning & Analysis (with the Director chairing the committee), and a representative from the Division of Student Success.

Table 2: Distribution of Faculty by College and Other Academic Units

College	*N of Faculty (Headcount)*	*% of Total Headcount*	*Faculty FTE*	*% of Total FTE*
College of Agriculture	186	13.7%	165.4	15.9%
College of Arts & Architecture	108	7.9%	83.5	8.0%
College of Business	67	4.9%	50.7	4.9%
College of Education/HHD	119	8.7%	76.0	7.3%
College of Engineering	139	10.2%	120.5	11.6%
College of Letters & Science	299	22.0%	238.8	22.9%
College of Nursing	137	10.1%	89.3	8.6%
Extension	120	8.8%	113.2	10.9%
Gallatin College	80	5.9%	43.3	4.2%
Library	24	1.8%	22.8	2.2%
Other - Provost	57	4.2%	25.6	2.5%
Other Units*	25	1.8%	12.8	1.2%
Grand Total	**1,361**	**1**	**1,041.8**	**1**

The committee's role was to facilitate the development of the plan rather than create it in isolation. Accordingly, the committee engaged in extensive outreach and communication efforts. A chronicle of news releases regarding the process is available online at https://www.montana.edu/strategicplan/archive/process/process-communications.html (MSU Strategic Planning Process, n.d.). The design and objective of the process was to develop a plan that the community (internal and external) had ample opportunity to contribute to thus would hopefully feel invested in supporting towards success.

During the process of its development, attention was paid to how progress on the 10 goals within the three areas of "Intentional Focus" (MSU Planning Council, n.d.) of the plan could be operationalized. While some goals were straightforward in regard to deriving appropriate metrics to track, such as "GOAL 1.1: Broaden access for underrepresented populations and increase academic success for all students…" (MSU Strategic Plan (a), n.d.), some of the more conceptual goals, such as "GOAL 2.1: Enhance the significance and impact of scholarship" (MSU Strategic Plan (b), n.d.) required more creative means to operationalize. Having adopted the faculty productivity reporting tool Activity Insight, a hosted solution from Digital Measures, in 2013, which allowed the institution to collect, aggregate and better understand the scope and scale of otherwise distributed activities from faculty, provided a means of operationalizing and measuring institutional progress on many of the plan's goals. For example, data from Activity Insight was used to track progress on: Goal 1.1: Broaden access for underrepresented populations and increase academic success for all students through excellence in education, Goal 1.3: Implement evidence-based high quality, high impact teaching and learning practices for every student, Goal 2.1: Enhance the significance and impact of scholarship, Goal 2.3: Strengthen institutional reputation in scholarship, Goal 3.2: Grow mutually beneficial partnerships across Montana, and Goal 3.3: Foster a culture of collaboration, continuous improvement and individual growth. Of course, a key element of getting valid and reliable data out of Activity Insight was trying to make sure faculty used the tool to identify their activities and accomplishments.

On November 7, 2018, MSU's University Council, the body responsible for vetting and recommending policies and procedures to the President of the University for adoption, voted to recommend the proposed plan, titled "Choosing Promise" (MSU Planning Council, n.d.) be adopted and implemented effective January 2019.

Faculty Productivity Reporting

During the strategic planning process, the company that developed and hosted Activity Insight, Digital Measures, was purchased by Watermark. In 2021, Watermark renamed Activity

Insight as Faculty Success. Neither the purchase or renaming had any functional impact on the purpose or use of the product.

Montana State University uses Watermark's Faculty Success (Watermark, n.d.) to collect information from faculty regarding their professional activities. The system produces faculty annual review documents, CVs, pre-defined custom reports, ad hoc reports, documentation to support P&T dossiers and serves as the back-end database for the university and departmental web directories and faculty web profiles. It accomplishes this based on the information uploaded, entered, and curated in the database by faculty. It also provides MSU with reporting capabilities to support grant applications and track strategic plan metrics. Faculty Success further gives colleges and departments the flexibility to create reports based on any of the data residing in the tool that are specific to their own needs or interests.

Part of the intent behind the purchase of the product was to reduce the number of "asks" faculty received for their information (publications, grants, presentations, etc.). With the adoption of the tool, faculty are asked for information about their activities in one place, using one tool, with hope to minimize their duplication of reporting efforts. The hosted, web-based site is available to update information anytime and from any computer or mobile device that has an internet connection. Of note, which will become more relevant in the Data Collection Procedure below, is that records can (and are) created by and from multiple sources. Where possible the institution endeavours to pre-populate faculty profiles with data that it already has in other electronic repositories. Specifically, records of courses taught, grants submitted/accepted/declined, graduate student committee membership, number of undergraduate advisees, etc. are fed from the institutions Ellucian Banner ERP into Faculty Success on a regular basis. Records of professional development activities that occur through the Center for Faculty Excellence are also fed into faculty profiles via an integration with the Apex program registration system.

The system is flexible in that the institution can make various screens and fields within screens available by college. The purpose of such customization is to reduce the amount of "clutter" that faculty see by not including screens and fields that may not be of use to faculty in a given college. For example, three screens were created specifically for use by the library. Those screens were viewable only by faculty who were associated with the library. Faculty in other academic colleges never saw those screens in their own Faculty Success profiles. Table 3 identifies all the possible screens currently in use.

Early Career Faculty Success Program

As identified in the Introduction, this author first proposed a transition from a one-day new faculty orientation to an academic year long program for new faculty to the Senior Vice Provost in January of 2020 (Appendix A). Said Senior Vice Provost turned it over to the Director and Assistant Director of the Center for Faculty Excellence to implement. As there had already been some encouragement from the institution's Dean of Students to adopt a more distributed delivery of various "student success" topics (academic misconduct, dealing with disruptive students, advising, mental health counselling resources, etc.) so that there was less of a "drinking from a firehose" delivery of key information in one couple-hour session immediately prior to the start of the academic year, the Center staff had already been considering ways to expand the orientation over the academic year.

Table 3: Faculty Success Data Capture Screens

Screen	
General Information	
Personal & Contact Information	Graduate/Post-Graduate Training
Biography & Expertise	Faculty Professional Enhancement Activities
Web Profile	Media Appearances and Interviews
Appointment Data:	Awards & Honors
Permanent Data	Licensures & Certifications
Yearly Data, Annual Narrative & Goals	Professional Memberships
Annual Workload Distribution	References
Administrative Assignments	Consulting
Education	Previous/Concurrent Academic, Professional, Government & Military Positions
Teaching	
Scheduled Teaching	Graduate Committees, Dissertations, and Theses
Other Instruction	Academic Advising - Undergraduate
Directed Student Learning (e.g. undergrad/grad research, independent study, internships, non-MSU thesis/dissertation committees, etc.)	
Research, Creativity & Technology Transfer	
Publications/Intellectual Contributions	Presentations
Artistic & Creative Activities	Intellectual Property (e.g., copyrights, patents)
Grants & Sponsored Research, Contracts, Fellowships	Biographical Sketch:
Research in Progress & Other Funded Activities (not submitted on an Electronic Proposal Clearance Form - ePCF)	NIH (2015) | NIH (pre-2015) and NSF
Engagement, Outreach, and Service	
Engagement Plan [Extension Only]	Professional
Engagement Results	Public
Extension Time and Effort [Extension Only]	Impact [College of Business Only]
University	

What transpired was Center staff amalgamating the author's proposal with the framework from the University of Oregon's "New Faculty Success Program" to create a year-long program "to give faculty the tools, connections, training and support for them to be able to support students, each other and Montana State achieve their mission and goals to integrate education, creation of knowledge and art and service to communities – transforming lives and communities" (Appendix B). The program would include workshops, be open to non-tenure track faculty and graduate students, and like the University of Oregon program, integrate resources from the National Center for Faculty Development & Diversity (D. Adams & N. Stoop, personal communication, December 2024). Additionally, a conscientious effort was made to integrate panels and presentations by faculty "colleagues" to try and mitigate the potential for participants tuning out presentations by institutional administrators.

Finally, a few other points of note at this point in the development of the program. First, no additional funding was provided to the Center for Faculty Excellence to bring this program to fruition. The resources and time required to organize and manage the program was absorbed by staff and presenters and participants. Second, academic department heads were not integrated into the process for developing the program. As they were the individuals tacitly expected to ensure their new faculty's participation, their lack of involvement and resulting lack of investment in the program, could be problematic. Lastly, there was still the expectation that attendance at the program throughout the year would be mandatory for new faculty. In fact, under the "Obligations" section in the template for letters of hire for tenurable faculty it explicitly states, "You are also required to participate in the First-Year Experience, which will include a mentoring program and a special series of on-boarding workshops and events presented throughout the academic year by the Center for Faculty Excellence." (MSU Tenurable Faculty Letter of Hire template, n.d.). This is related to the investment (or lack thereof) in the program by the academic department heads because they (and anyone else who could) largely opt not to hold their new faculty accountable for failing to meet that stated contractual obligation.

Population

The study population included 223 tenured, tenurable and non-tenurable faculty hired between August 1, 2020, and August 31, 2023. Administrators (Deans) hired with faculty rank were excluded as were institutional staff (professional or classified employees) hired as non-tenurable instructors for additional compensation. Those "faculty" were excluded because of the extremely unlikely chance that they would believe that the Early Career Faculty Success program would support their professional development or provide greater information or appreciation for the institutions strategic goals that then already received in their primary positions at the institution.

Other faculty excluded included those hired outside of the month of August in each academic year. The Majority of faculty in any given academic year are hired (have contract start dates) in the middle of the month of August, typically between the 15th and 17th of August. Because there is some variability, faculty hired (with a contract start date) at any day during the month of August each of the four study years (2020, 2021, 2022, and 2023) were included. There are faculty hired throughout the year, with a "bump" in the hiring of non-tenurable faculty in January. They were excluded because if they were hired mid semester, they were primarily short-term replacements meant just to cover the instructional needs through the end of the semester, or if hired mid-year (January) would have already missed half of the ECFS program and thus be unlikely to jump into what they might perceive as the middle of the program (though some very few may have). The CONSORT flow diagram (Figure 3) identifies how the sample (study population) was selected from the total population of faculty hires within the date frame.

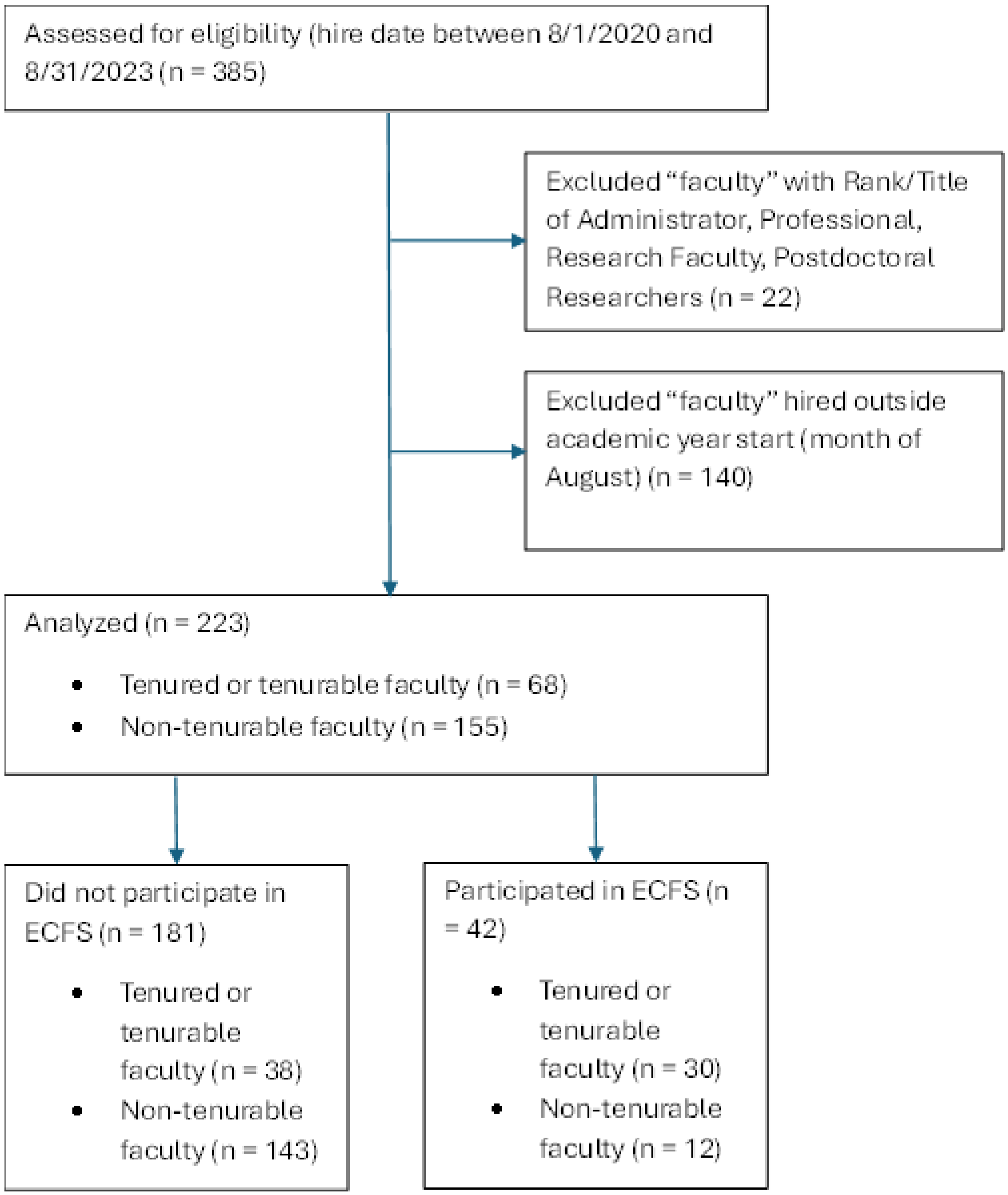

Figure 3. CONSORT Flow Diagram: Selection of Sample from Population

Data Collection Procedure

The initial sample participants were selected from the Watermark Faculty Success application via a “New Report” that was created and run within the application that included the following criteria:

- Date Range: 8/1/2020 – 9/15/2023
- Whom to Include: All individuals regardless of whether they had “Enabled” (current) or “Disabled” (no longer at MSU) profiles.
- Data to Include: College, Department, Tenure Status, User ID, Secondary ID(s), User First, Middle, Last Name, Starting Rank, Start Date at MSU, Date Attained Rank of Assistant Professor, and Separation Date

A breakdown of the sample by college and tenure status is available in Table 4.

Table 4: Distribution of New Faculty in Sample by College

College	*Non-Tenure Track*	*Tenured/Tenure-Track*	*Total*	*% of Total*
College of Agriculture	0	11	11	4.93%
College of Arts & Architecture	22	5	27	12.11%
College of Business	34	8	42	18.83%
College of Education/HHD	9	4	13	5.83%
College of Engineering	12	8	20	8.97%
College of Letters & Science	29	23	52	23.32%
College of Nursing	42	6	48	21.52%
Extension	3	3	6	2.69%
Gallatin College	2	0	2	0.90%
University College	2	0	2	0.90%
Grand Total	**155**	**68**	**223**	

Since the date range functions such that it includes any record that existed during the time frame specified, a total of 2,338 user records were returned. As identified in Figure 2, when the start date parameter (between 8/1/2020 and 8/31/2023) was applied, this reduced the population to 385 new users. Subsequent exclusion (see Figure 2) reduced the group to the sample of 223 new academic/teaching faculty. The additional data elements of gender and race/ethnicity were also downloaded from Faculty Success and appended to the sample file. Of particular note in regard to the race/ethnicity data is that due to the very small numbers of individuals identifying in any of the standard federal race/ethnicity groups other than White (American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, Two or More Races), those who did identify as other than white were aggregated into an ”Under-Represented Minority” (URM) category. Those who chose not to provide a race/ethnicity or whose race/ethnicity was unknown were maintained in a separate, third category.

Once the individuals in the sample were identified, the Usage Statistics tool in the Faculty Success application was used to download every sample member’s detailed usage statistics. These are record level log files for each individual’s profile identifying the:

- Record <u>Owner</u> (faculty member)
- <u>Date</u> the record event happened
- <u>Screen</u> the record applied to (see Table 3 for list of screens)
- <u>Record ID</u> associated with individual records
- <u>Event</u> (whether the record was created, updated or deleted)

- Source (whether the record was created by the User, someone with Manage Data access, Imported, or created via a BibTeX file upload)
- User (who created, modified or deleted the record), and
- Data (what specific data elements within the record were created modified or deleted)

After the 223 usage statistics files were downloaded, they were combined into a single master file. It was also at this point that counts of records in the user logs were disaggregated into those created or modified by the faculty profile owner (i.e. the faculty member) and those created, modified or deleted by a user other than the faculty member (e.g. by the MSU Faculty Success Project Administrator or delegate, or an automated data feed through Watermark's Web Service utility). While keeping in the fundamental question of the study; whether participation in the ECFS program resulted in greater engagement with the institutions strategic plan as measured by the activities the faculty member recorded or managed in their faculty success profile, different combinations of owner created/modified, and "other" created/modified record data was used in the subsequent analysis of the data.

To provide a more concrete example of the kind of "other" than owner/user created records were excluded or included, the following examples are provided. During the process of setting up a new tenurable faculty member's Faculty Success profile, the Project Team conducts a "courtesy" Goggle Scholar search for that faculty member's publications. If publications are found that are associated with that faculty member they are imported in the faculty member's "Publications / Intellectual Contributions" screen via a BibTeX file import process. Depending on the productivity of the incoming faculty member and disciplinary expectations (say between the School of Music and the Physics Department) of their publication record for hire into a tenurable position at a Carnegie Classified Doctoral University: Very High Research Activity (R1), a significant difference in publication records may exist that have no bearing on the research questions at hand. Accordingly, records created by the Project Team were excluded from the analysis, while records created and/or modified by the owner/user were included. An example of records imported from a system that were included are "Grants & Sponsored Research, Contracts, Fellowships" records. While these are fed directly from the institutions Banner EIS (i.e. not created directly in Faculty Success by the faculty members), it is the faculty member's submission of the grant proposal to the electronic Proposal Clearance Form (ePCF) that initiates the record creation in Banner and subsequent export of some of those data element from Banner to Faculty Success. So, while not directly created in Faculty Success by faculty, the creation of those records is the indirect result of faculty members submitting grant proposals.

There is a Grand Total field in the data source file, which is a total count of all records created or modified by the user/profile owner and other entities. There is an Owner Added Total, which is a count of all records created or modified by the profile owner, and there is a Strategic Plan Total, which is a total of all records created or modified by the user/profile owner and others in eight screens that were specifically used to track progress on metrics in the 2019 strategic plan. Table 5 identifies the screen and whether the user/profile owner or both user and other counts were used in the aggregation of the Strategic Plan Total field.

Table 5: Components of Strategic Plan Total Aggregated Data Field

Screen	*User/Profile Owner*	*Both User & Other*
Faculty Professional Enhancement Activities		X
Awards & Honors		X
Scheduled Teaching	X	
Directed Student Learning	X	
Publications/Intellectual Contributions	X	
Artistic & Creative Activities	X	
Grants & Sponsored Research, Contracts, Fellowships		X
Engagement Results	X	

The final component of the data file, whether new faculty in the sample participated in the ECFS program, was added to the final data source file using a combination of attendance rosters from the Canter for Faculty Excellence (CFE) and Faculty Professional Enhancement Activities records from Faculty Success. While there should be a 1-to-1 relationship between those two sources (there is a data feed set up between the CFE registration system, APEX, and Faculty Success), there are occasions when (due to administrative timing issues) CFE workshop participation records are not loaded into Faculty Success. Similarly, there are occasions when faculty attend CFE workshops but fail to sign in at the time. In any case, there are occasions when faculty manually create records of their attendance at ECFS workshops in their Faculty Success profiles. Therefore, the two data sources were cross-referenced and records aggregated together between the two. This only applied to a very small number of records. As the data from the CFE and Faculty Success was delineated by participation in individual workshops (nine each year, except the 2021-2022, COVID, year where only three sessions were hosted via video conference), and aggregate field, ECFS Participation, was derived to assist in comparing groups.

Anyone who participated in one or more ECFS workshops was coded as a “yes” in that field. Appendix C has a complete listing of the data file’s variables and their source.

Analysis

In addition to using various descriptive statistics, after computing Inverse Probability of Treatment Weights (IPTW) to create a pseudo-randomized sample, the weighted linear regression will be used to identify whether statistically significant differences exist between participants and non-participants relative to their use of the Faculty Success tool. The purpose of the using the IPTW in combination with linear regression is the reduce selection bias, balance the participant and non-participant groups on covariates, improve the possibility of causal inference and improve internal validity by systematically adjusting for covariates that might otherwise confound the results. Additionally, the non-parametric Chi-square test will be used to identify if there is a statistically significant difference in the demographic composition of those new faculty who did and did not participate in the Early Career Faculty Success program.

Summary

This study employs a cross-sectional quasi-experimental design to assess the impact of Montana State University’s Early Career Faculty Success (ECFS) program on faculty engagement with the Faculty Success reporting tool and alignment with the university’s strategic plan. Using linear regression in conjunction with Inverse Probability of Treatment Weighting (IPTW), and Chi-square tests, the study compares faculty who participated in ECFS with those who did not to identify significant differences in engagement and demographics.

The research addresses three key questions: whether ECFS participants engage more frequently with Faculty Success, whether they report more activities aligned with MSU's strategic goals, and whether demographic differences exist between participants and non-participants. Since faculty self-selected into the program, the study follows a posttest-only nonequivalent groups design, acknowledging potential differences in motivation between groups.

The study population includes 223 tenure-track and non-tenure track faculty hired between August 1, 2020, and August 31, 2023. Excluded from the study are faculty with administrative roles, short-term hires, and those employed outside the standard August hiring period. Faculty participation in ECFS was determined through attendance records from the Center for Faculty Excellence and Faculty Success logs, with any faculty attending at least one ECFS session classified as participants.

Data collection was conducted using Faculty Success, which tracks faculty activities. Engagement was categorized into three measures: total engagement (all records created or modified), user-initiated engagement (records modified by faculty), and strategic plan-specific engagement (interactions reflecting institutional goals). Some data, such as faculty grant submissions, were included despite being imported automatically, as they indicate faculty-initiated engagement with institutional priorities.

For data analysis, weighted linear regression will compare Faculty Success engagement between ECFS participants and non-participants. Chi-square tests will determine whether demographic disparities exist between the groups. These analyses will provide insights into the effectiveness of the ECFS program in supporting faculty success and institutional engagement.

By evaluating faculty engagement patterns and demographic trends, this study seeks to determine whether ECFS participation enhances faculty interaction with Faculty Success and advances MSU’s strategic objectives. The findings will contribute to understanding faculty development programs and their role in fostering institutional integration and academic success.

CHAPTER FOUR

RESULTS

Introduction

The purpose of this cross-sectional quasi-experimental study is to identify whether the Early Career Faculty Success (EFFS) program at Montana State University has had an impact on the culture of new faculty joining MSU who have participated. In this case, “culture” is being operationally defined as measurable behaviors. Comparative associational analysis (Gliner et al., 2017) of the interactions between new faculty (i.e. those who have participated in the ECFS program and those who have not) and the institution’s faculty productivity reporting tool will be conducted. A comparison of the self-reporting of data elements used to measure progress on the institution’s strategic plan will also be conducted. Finally, the two groups will be compared to try and discern whether there are any significant differences in the demographics between those who participated and those who did not. The analysis includes the four cohorts of the new faculty hired in 2020 through 2023.

Specifically, the following research questions will be addressed in the study: 1) Do faculty who participated in the Early Career Faculty Success program engage with the faculty productivity reporting tool (Faculty Success) at a greater rate than faculty who did not participate in the ECFS program, 2) Do faculty who participated in the ECFS program report more activities that reflect the kinds of things the institutions strategic plan intends to promote, and 3) Is there a difference in the demographic composition (gender, race/ethnicity, faculty tenure status, college) of participants compared to their non-participating new-faculty cohort peers? In regard to the demographics, the question was more specifically broken down into: 3.a. Are there significant differences in the tenure status of those who participated and those who did not, 3.b. Are there significant differences in the gender distribution of those who participated and those who did not, 3.c. Are there significant differences in the race/ethnicity of those who participated and those who did not, and finally, 3.d. Are there significant differences in participation based on the colleges the new faculty are employed in?

Foundations of Data Analysis

The first two research questions were addressed through weighted linear regressions to identify whether there are statistically significant differences between the two groups total interaction with the Faculty Success reporting tool and the aggregate count of their record interactions with just those Faculty Success data elements used to measure institutional progress on the strategic plan. To reduce the likelihood of the regression identifying group differences stemming from faculty self-selection into participation or not (the principal weakness of quasi-experimental designs), Inverse Probability of Treatment Weights (IPTW) will be used to simulate the randomization of the sample (Austin, 2011; Austin & Stewart, 2015; Chesnaye et al., 2022; Hernán & Robins, 2006; Rosenbaum & Rubin, 1983). The third research question was addressed using Chi-square tests to see if any difference between the observed frequencies of the demographic groups and their expected frequencies could be due to chance or some relationship between the variables (demographic variable and participation).

Descriptive Data

Between the start of the 2020 and 2023 academic years 223 new faculty were hired that met the criteria for inclusion on this study. Of those faculty, 42 (18.8%) participated in at least one session of the Early Career Faculty Success program and 181 (81.2%) did not participate in any of the ECFS sessions. By gender distribution, among participants in the ECFS program, 24 individuals (57.1%) were female, while 18 (42.9%) were male. In contrast, among non-participants, 105 individuals (58.0%) were female, and 75 (41.4%) were male. The proportions are relatively similar across both groups, with only slight variations. By race/ethnicity, a greater proportion of ECFS participants identified as one of the under-represented minorities (URM), 28.6% (12), compared to non-participants, 15.7% (23). Inversely, a lower proportion of participants identified as white, 66.7% (28), compared to non-participants, 77.1% (144). Similarly, a lower proportion of those whose race/ethnicity was unknown participated in the ECFS program, 4.8% (2), than those in this category who did not participate, 7.2% (14). With respect to tenure status, the number of tenure-track and tenured faculty who participated, 30 (71.4%), more than doubled the number of non-tenure track faculty, 12 (28.6%), while those faculty who did not participate were primarily non-tenure track, 143 (79.0%), with only 38 (21.0%) of the non-participants being tenure-track or tenured faculty. When looking at the distribution of participants by college, the numbers get quite small making comparisons to the non-participants more tenuous. However, in broad brush strokes it appears that new faculty in the College of Engineering (19.0% of the participants), the College of Agriculture (11.9% of the participants), and the College of Education/Health & Human Development (11.9% of the participants) are overrepresented relative to their non-participant counterparts (6.6%, 3.3%, and 4.4%, respectively). On the flip side, participants from the College of Nursing (7.1%) and College of Business (11.9%) are underrepresented relative to their non-participant counterparts (24.9% and 20.4% respectively). Lastly, we can see that by year of hire, 2020 (14.3% of participants vs. 20.4% of non-participants) and 2021 (7.1% of participants vs. 31.5% of non-participants), participants were underrepresented while the 2023 cohort ECFS participants were overrepresented (50.0%) relative to the non-participants (21.0%). A complete breakdown of the number and distributions is available in Table 6.

In addition to looking at the proportional differences between those in the sample who participated and those who did not, it is worth revisiting the fact that "participation" is a "yes" or "no" designation based on whether a faculty member attended at least one of the annual ECFS sessions. Table 7 provides a closer look at the centrality and variability of faculty participation by the same demographic categories identified in Table 6 relative to the number of sessions they attended. The one "demographic" category from Table 6 not presented in Table 7 is the "Year of Hire" category. This is because the Center for Faculty Excellence (CFE) has hosted the same number of sessions each of the cohort years, so the data would look skewed. Most notably, in 2021 only three ECFS sessions were provided (via videoconference) due to COVID.

In addition to looking at the proportional differences between those in the sample who participated and those who did not, it is worth revisiting the fact that "participation" is a "yes" or "no" designation based on whether a faculty member attended at least one of the annual ECFS sessions. Table 7 provides a closer look at the centrality and variability of faculty participation by the same demographic categories identified in Table 6 relative to the number of sessions they attended. The one "demographic" category from Table 6 not presented in Table 7 is the "Year of Hire" category. This is because the Center for Faculty Excellence (CFE) has hosted the same number of sessions each of the cohort years, so the data would look skewed. Most notably, in 2021 only three ECFS sessions were provided (via videoconference) due to COVID.

Table 6: Distribution of ECFS Participants/Non-Participants by Demographic Characteristics

Variable	*ECFS Participation - Yes (N)*	*ECFS Participation - Yes (%)*	*ECFS Participation - No (N)*	*ECFS Participation - No (%)*
Gender				
Female	24	57.1%	105	58.0%
Male	18	42.9%	75	41.4%
Not Available	0	0.0%	1	0.5%
Race/Ethnicity				
Under-represented Minority (URM)	12	28.6%	23	15.7%
White	28	66.7%	144	77.1%
Race/Ethnicity Unknown	2	4.8%	14	7.2%
Tenure Status (at Hire)				
Non-Tenure track	12	28.6%	143	79.0%
Tenure-Track/Tenured	30	71.4%	38	21.0%
College				
College of Agriculture	5	11.9%	6	3.3%
College of Arts & Architecture	4	9.5%	23	12.7%
College of Business	5	11.9%	37	20.4%
College of Education/HHD	5	11.9%	8	4.4%
College of Engineering	8	19.0%	12	6.6%
College of Letters & Science	10	23.8%	42	23.2%
College of Nursing	3	7.1%	45	24.9%
Extension	1	2.4%	5	2.8%
Gallatin College	1	2.4%	1	0.6%
University College	0	0.0%	2	1.1%
Year of Hire				
2020	6	14.3%	37	20.4%
2021	3	7.1%	57	31.5%
2022	12	28.6%	49	27.1%
2023	21	50.0%	38	21.0%

In addition to looking at the proportional differences between those in the sample who participated and those who did not, it is worth revisiting the fact that “participation” is a “yes” or “no” designation based on whether a faculty member attended at least one of the annual ECFS sessions. Table 7 provides a closer look at the centrality and variability of faculty participation by the same demographic categories identified in Table 6 relative to the number of sessions they attended. The one “demographic” category from Table 6 not presented in Table 7 is the “Year of Hire” category. This is because the Center for Faculty Excellence (CFE) has hosted the same number of sessions each of the cohort years, so the data would look skewed. Most notably, in 2021 only three ECFS sessions were provided (via videoconference) due to COVID.

When looking at those who “participated” in the ECFS program, you can see that the average number of sessions attended for all participants was 2.33, generally out of seven scheduled by the CFE each academic year with an (expected) range from one to seven. With a relatively balanced number of participants by gender (24 female and 18 male), women attended more sessions on average than men (2.54 vs. 2.06, respectively). By aggregated race/ethnicity, we see that white participants attended 2.54 sessions on average vice the 2.08 sessions attended on average by under-represented minority participants. When looking at tenure status of program participants, we see that tenured and tenure-track faculty on average attended 2.6 sessions while non-tenure track faculty averaged 1.67 sessions. Finally, by college, we see that the College of Nursing, College of Agriculture and College of Engineering faculty participated in the highest average number of ECFS sessions (3.33, 3.0 and 2.88 respectively). Outside of Extension, Gallatin College and University college, who had no, or only one participant each, the College of Arts & Architecture and College of Business had the lowest average faculty participation at 1.75 and 1.8 sessions respectively. However, it behoves us to consider the small number of participants the descriptive statistics are calculated for when they are disaggregated across the 10 "college" units. In other words, the reader should keep in mind the potentially misleading statistics derived from groups with small numbers of participants.

Table 7: ECFS Session Participation by Demographic Characteristics

Variable	*N*	*Mean*	*Med.*	*Mode*	*SD*	*Min/ Max*	*Rnge*
Gender							
Female	24	2.54	2	1	1.67	1/7	6
Male	18	2.06	1	1	1.55	1/6	5
Not Available	0						
Race/Ethnicity							
Under-represented Minority (URM)	12	2.08	2	1	1.24	1/5	4
White	28	2.54	2	1	1.77	1/7	6
Race/Ethnicity Unknown	2	1	1	1	0.00	1/1	0
Tenure Status (at Hire)							
Non-Tenure track	12	1.67	1	1	0.89	1/3	2
Tenure-Track/Tenured	30	2.6	2	1	1.77	1/7	6
College							
College of Agriculture	5	3.00	3	1	2.00	1/5	4
College of Arts & Architecture	4	1.75	1	1	1.50	1/4	3
College of Business	5	1.80	1	1	1.30	¼	3
College of Education/HHD	5	2.00	2	2	0.71	1/3	2
College of Engineering	8	2.88	2.5	2	1.81	1/6	5
College of Letters & Science	10	2.20	2	1	1.40	1/5	4
College of Nursing	3	3.33	2	NA	3.21	1/7	6
Extension	1	1	1	1	0.00	1/1	0
Gallatin College	1	1	1	1	0.00	1/1	0
University College	0						
TOTAL	42	2.33	2	1	1.62	1/7	6

<u>Weighted Linear Regression</u>

In a quasi-experimental research design, participants are not randomly assigned to treatment or control groups, creating a significant risk of selection bias. Selection bias occurs when systematic differences exist between the characteristics of the participants in different groups prior to treatment. As a result, observed differences in outcomes may not be directly attributable to the treatment but rather to these pre-existing differences. Weighted linear regression analyses was used after statistically reweighting the sample by creating comparable treatment and control groups with Inverse Probability of Treatment Weighting (IPTW) based on covariates.

The following covariates were used in calculating the IPTW: Gender, URM (Underrepresented Minority status), Tenure Status (At Hire) and College (At Hire). While race/ethnicity broken out into the seven categories would have been preferable over the aggregation of non-white faculty into the under-represented minority category, there were too few individuals in each of the disaggregated groups to reduce the probability of instability or inaccuracies in estimating propensity scores. Similarly, College (At Hire) was identified as a covariate instead of Department (At Hire) because there were too few individuals across the 43 different departments to reliably estimate propensity scores.

In reference to research question 1) Do faculty who participated in the Early Career Faculty Success program engage with the faculty productivity reporting tool (Faculty Success) at a greater rate than faculty who did not participate in the ECFS program. When assessing outcome differences between participants and non-participants in the ECFS program looking at "Owner Added TOTAL" (the number of Faculty Success record additions or changes made directly by profile owning faculty member) as dependent variable, ECFS participation was significantly associated with higher Owner Added scores ($B = 34.41$, $SE = 9.45$, $t = 3.64$, $p < .001$, 95% CI [15.78, 53.04]). Participants in the ECFS program had greater contributions to owner-added/changed records than non-participants. When looking at the "Grand TOTAL" number of records in a faculty members profile (those they added themselves and those created or modified on their behalf by generally automated processes), there was no statistically significant difference between ECFS participants and non-participants (B = 37.68, SE = 84.87, t = 0.44, p = .658, 95% CI [-129.59, 204.94]). The wide confidence interval indicates considerable variability, suggesting no clear evidence of ECFS participation influencing the "Grand TOTAL" count.

Figure 4 provides a visual representation of linear regression exploring whether participants and non-participants in the ECFS program differed in the number of records they added/changed in their profiles. The red line represents the weighted linear regression fit, while the pink area on either side of the regression line indicates the 95% confidence interval. The yellow scatter points represent the individual "observations" (cases/faculty) and are sized proportionally to their IPT weights (larger points indicating greater weights). Figure 5 provides a similar visualization for the non-statistically significant results of the regression of the "Grand TOTAL" number of records in a faculty members profile.

For research question 2) Do faculty who participated in the ECFS program report more activities that reflect the kinds of things the institutions strategic plan intends to promote, the following was found. Participation in the ECFS program was associated with significantly higher counts of "Strategic Plan TOTAL" records (B = 19.09, SE = 9.01, t = 2.12, p = .035, 95% CI [1.34, 36.85]). Figure 6 visually represents the linear regression between participants and non-participants in the ECFS based on the number of records faculty in those groups had that supported strategic plan goals. Table 8 provides a summary of the weighted linear regression results.

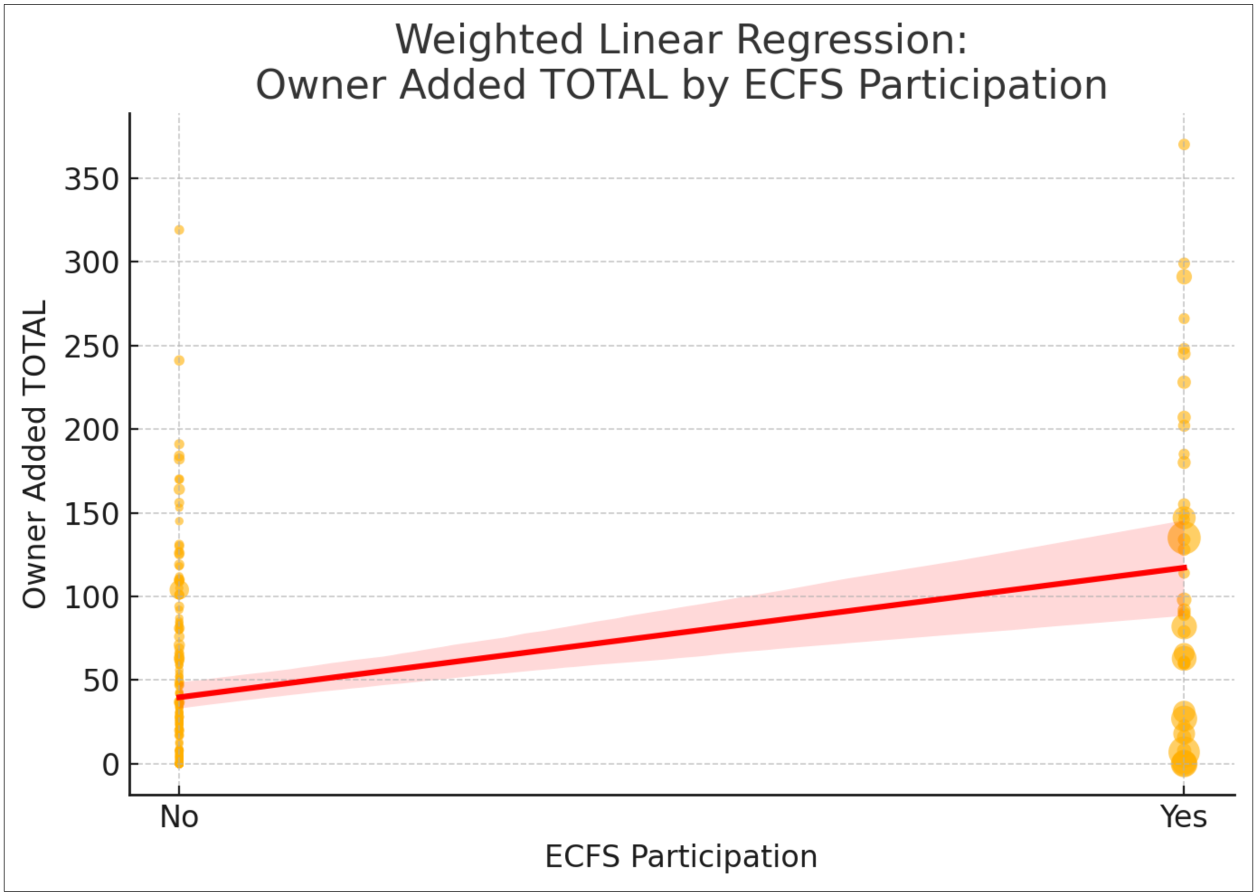

Figure 4: Weighted Linear Regression Results of Program Participation and the Total Number of Records Faculty Created/Changed in their Faculty Success Profiles ($p < 0.001$)

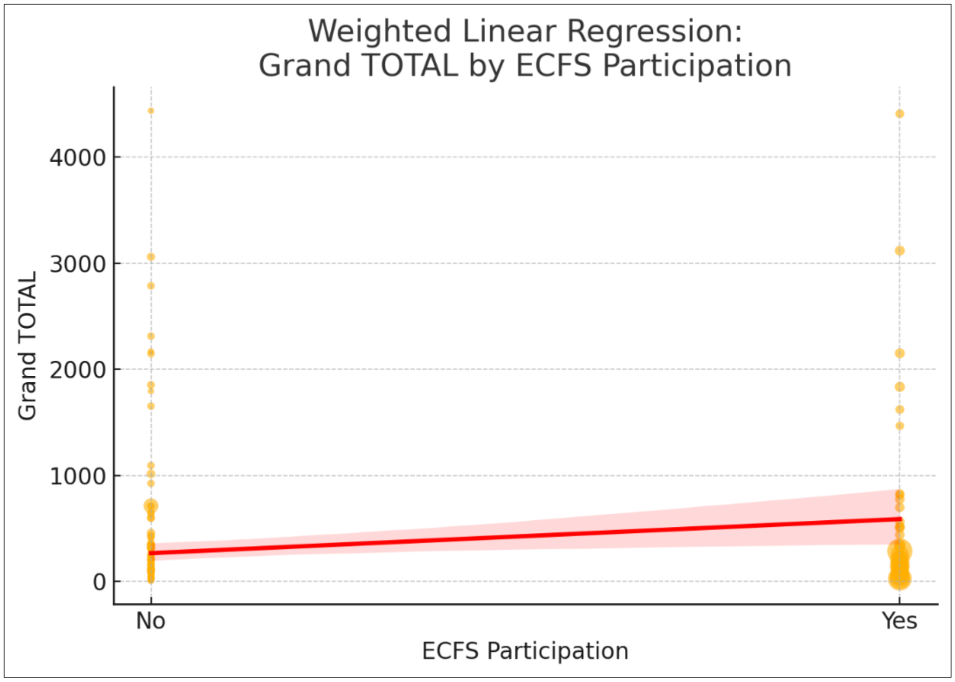

Figure 5: Weighted Linear Regression Results of Program Participation and the Grand Total Number of Records in their Faculty Success Profiles ($p < 0.596$)

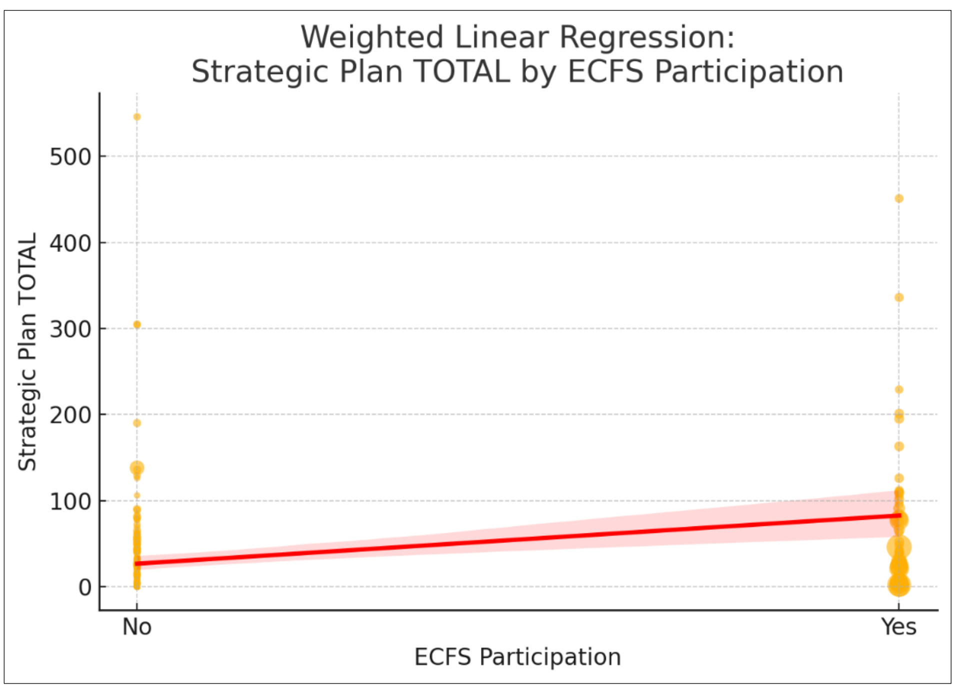

Figure 6: Weighted Linear Regression Results of Program Participation and the Total Number of Strategic Plan Supporting Records in Faculty Success Profiles ($p < 0.024$)

Table 8: Weighted Linear Regression Results

Dependent Variable	*B*	*SE*	*t*	*p*	*95% CI Lower*	*95% CI Upper*
Owner Added TOTAL	37.52	9.55	3.93	< .001	18.70	56.33
Grand TOTAL	44.90	84.65	0.53	.596	-121.93	211.74
Strategic Plan TOTAL	20.69	9.12	2.27	.024	2.71	38.66

When assessing the effect size, Standardized Coefficients (β) and Partial R^2 were used. Standardized Coefficients (β) express effects in standard deviation units, helping interpret the magnitude of differences irrespective of scale and Partial R^2 represents the proportion of variance uniquely explained by ECFS participation after weighting.

When considering the "Owner Added TOTAL" variable, participation in the ECFS program explains about 6.5% of the variance in record addition/changes (Partial $R^2 = .065$), reflecting a modest standardized effect ($\beta = 0.210$). Consistent with earlier findings regarding the "Grand TOTAL" variable, ECFS participation has essentially no meaningful effect (Partial $R^2 = .001$, $\beta = 0.027$). Finally, for the "Strategic Plan TOTAL" dependent variable, ECFS program participation explains abo 2.3% of the variance in number of records added/modified that map to strategic plan metrics (Partial $R^2 = .023$), representing a small standardized effect size ($\beta = 0.118$). Table 9 provides a summary of the effect sizes associated with the results.

Table 9: Effect Sizes

Outcome Variable	*Standardized β*	*Partial R^2*
Strategic Plan TOTAL	0.118	.023
Owner Added TOTAL	0.210	.065
Grand TOTAL	0.027	.001

Chi-square

In addressing research question 3) Is there a difference in the demographic composition (faculty tenure status, gender, race/ethnicity, college) of participants compared to their non-participating new-faculty cohort peers, the Chi-square test was employed. The Chi-square test is used when the variables of interest are nominal/categorical. The test is used to determine if the distribution of cases within categories differs significantly between groups.

When addressing sub-question 3.a. Are there significant differences in the tenure status of those who participated and those who did not, the results of the test were significant, χ^2 (1, N = 223) = 40.91, p < .000, Cramer's V = .184 (indicating a small, or weak effect size). Table 10 provides detailed statistics for each cell. The contribution to Chi-square statistic (the standardized residual squared for each cell) indicates which cells contributed to the determination that there is an association between participation and tenure status. Specifically, Tenure-Track/Tenured faculty (since there was only one tenured faculty member in the sample, it was combined with the tenure-track faculty for statistical analysis) exceeded the expected rate of participation and the count of Non-Tenure Track faculty fell far short of the expected count. Figure 7 provides a graphic representation.

As for sub-question 3.b. Are there significant differences in the gender distribution of those who participated and those who did not, the results of the test were not statistically significant, χ^2 (1, N = 222) = 0.02, p = .888, Cramer's V = .000. Table 11 provides detailed statistics for each cell but as evident from the contribution to Chi-square statistic as well as a review of the counts and expected counts in each cell, there is no identified association between participation in the ECFS and the gender of the faculty. Figure 8 graphically shows the lack of association.

Table 10: Pairwise Comparison of Differences Between Participants & Non-Participants by Tenure Status

ECFS Participation		*Non-Tenure Track*	*Tenure-Track/Tenured*	*All*
No	Count	143	38	181
	Expected Count	125.81	55.19	
	Cont. to Chi^2	2.350	5.356	
Yes	Count	12	30	42
	Expected Count	29.19	12.81	
	Cont. to Chi^2	**10.126***	**23.080***	

Note. * = significance.

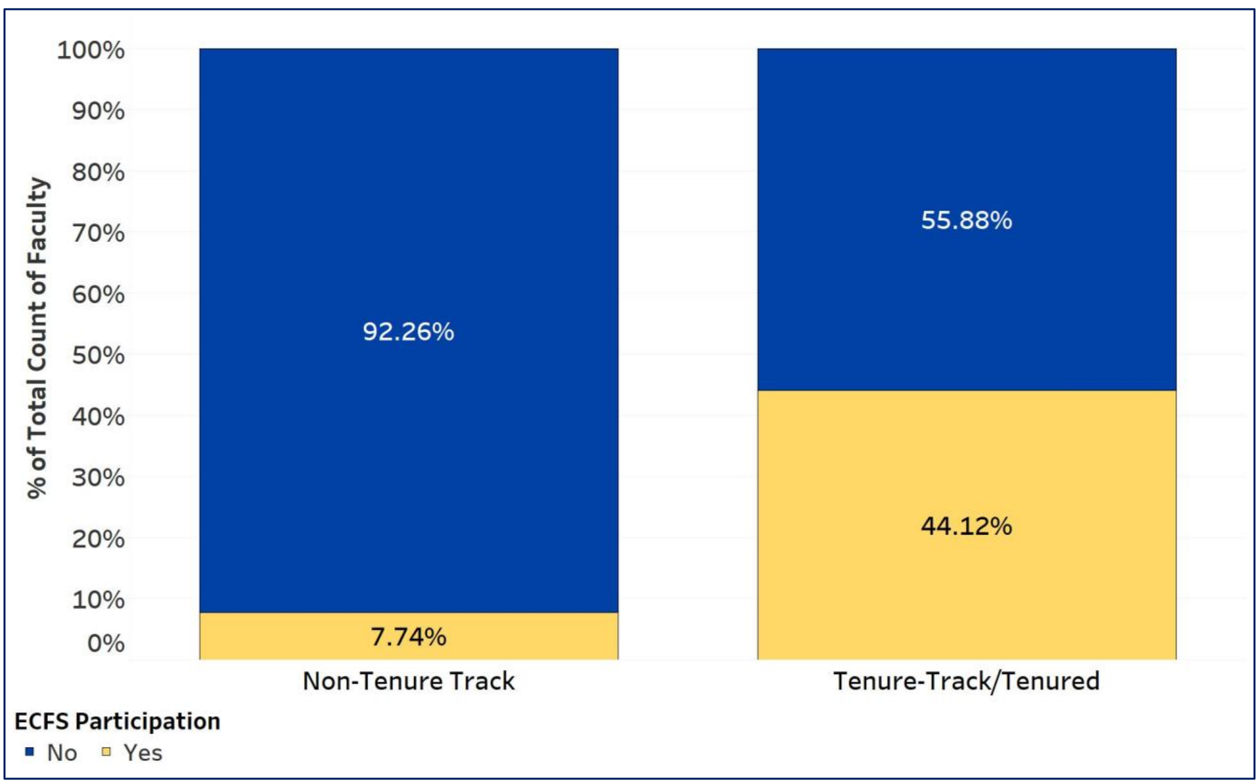

Figure 7: Distribution (%) of Program Participation by Tenure Status

Table 11: Pairwise Comparison of Differences Between Participants & Non-Participants by Gender

ECFS Participation		*Female*	*Male*	*All*
No	Count	105	75	180
	Expected Count	104.59	75.41	
	Cont. to Chi^2	0.002	0.002	
Yes	Count	24	18	42
	Expected Count	24.41	17.59	
	Cont. to Chi^2	0.007	0.009	

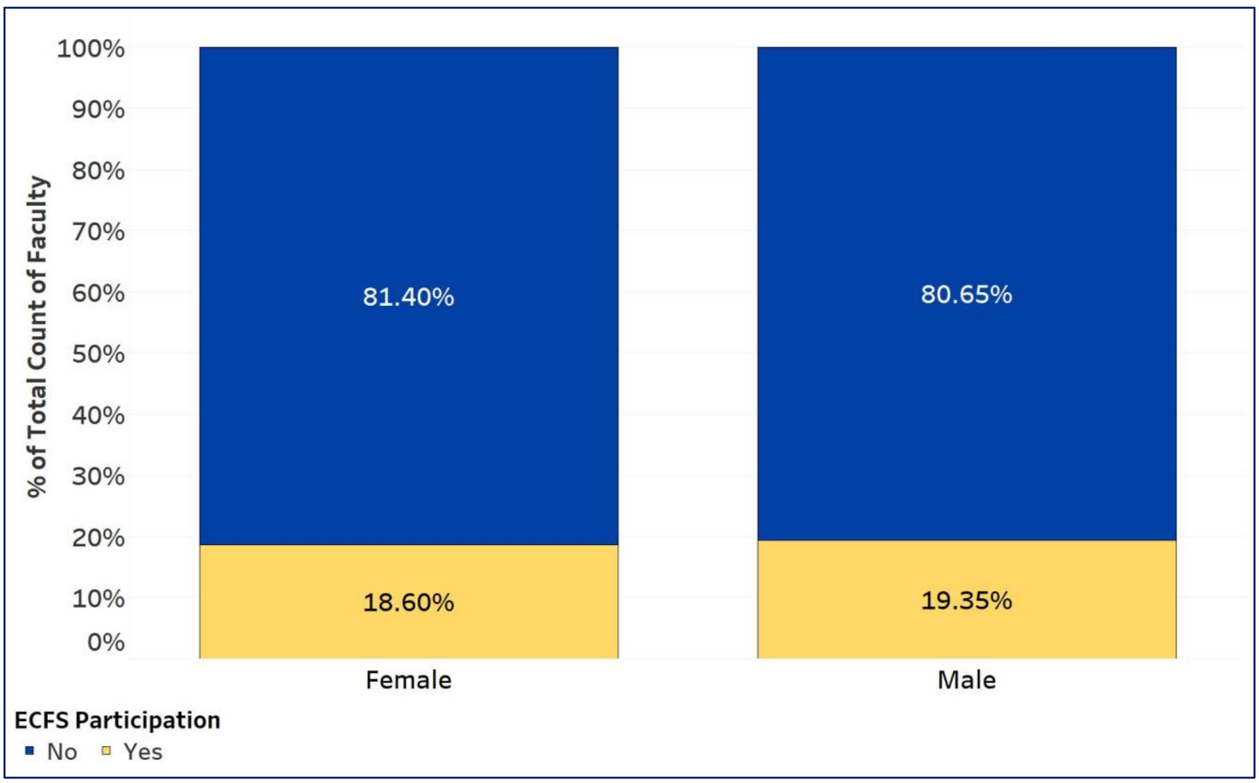

Figure 8: Distribution (%) of Program Participation by Gender

Sub-question 3.c. looks at whether there are statistically significant differences in the race/ethnicity of those who participated in the ECFS program and those who did not. As with the weighted linear regression, Non-white, but known race/ethnicities were aggregated into an

"Underrepresented Minority" category to allow for enough cases to statistically analyse. The results of the test were statistically significant, χ^2 (2, N = 223) = 6.621, p = .037, Cramer's V = .029 (indicating a small or weak effect size). Table 12 provides detailed statistics for each cell. The contribution to Chi-square statistic shows that underrepresented minority (URM) faculty provided the greatest divergence from the null hypothesis and the count of URM who participated is almost twice what would be expected if there were no association between race/ethnicity and program participation. Figure 9 provides a representation of the variance in distribution.

Table 12: Pairwise Comparison of Differences Between Participants & Non-Participants by (Aggregated) Race/Ethnicity

ECFS Participation		*R/E Unknown*	*URM*	White	*All*
No	Count	14	23	144	181
	Expected Count	12.99	28.41	139.61	
	Cont. to Chi^2	0.079	1.029	0.138	
Yes	Count	2	12	28	42
	Expected Count	3.01	6.59	32.39	
	Cont. to Chi^2	0.341	**4.437***	0.596	

Note. * = significance.

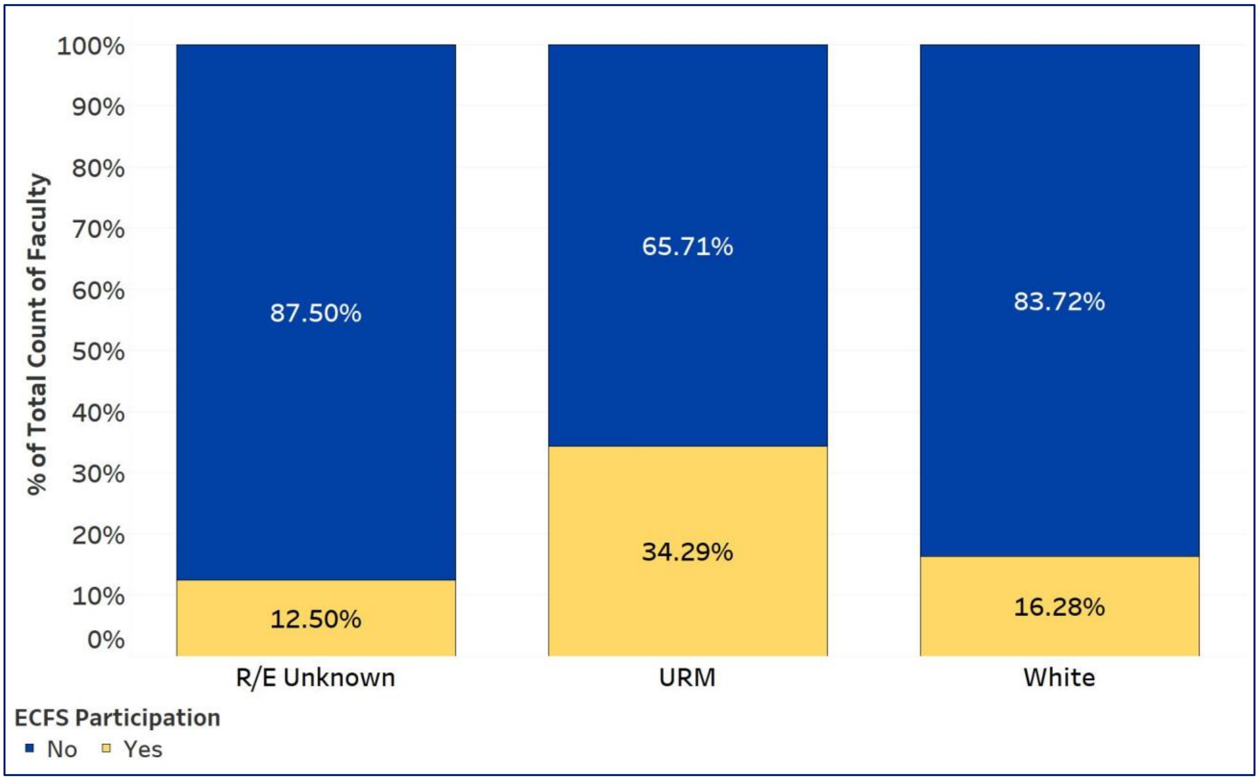

Figure 9: Distribution (%) of Program Participation by Race/Ethnicity

Lastly, sub-question 3.d. asks whether there are statistically significant differences in the college of hire of those who participated in the ECFS program and those who did not. The results of the test were again significant, χ^2 (7, N = 219) = 20.932, p < .000, Cramer's V = .096 (indicating a small or weak effect size). It should be noted that two faculty from the University College and Two from Gallatin College were excluded from the analysis as they did not provide enough counts in their cells to allow the rest of the analysis to run successfully. Beyond that, one can see that association between college and participation in the ECFS program was due to greater than expected participation of faculty from the colleges of Engineering and Agriculture and less than expected participation by faculty from the College oof Nursing. The variance in distribution between colleges relative to participation/non-participation is graphically provided in Figure 10.

Table 13: Pairwise Comparison of Differences Between Participants & Non-Participants by College

ECFS Participation		*Ag*	*Arts & Arch*	*Bus*	*Ed / HHD*	*Eng*	*Extn*	*Ltrs & Sci*	*Nurs*	*All*
No	Count	6	23	37	8	12	5	42	45	178
	Expected Count	8.94	21.95	34.14	10.57	16.26	4.88	42.27	39.01	
	Cont. to Chi^2	0.967	0.051	0.240	0.623	1.114	0.003	0.002	0.919	
Yes	Count	5	4	5	5	8	1	10	3	41
	Expected Count	2.06	5.06	7.86	2.43	3.74	1.12	9.74	8.99	
	Cont. to Chi^2	**4.199***	0.220	1.043	**2.706***	**4.837***	1.014	0.007	**3.988***	

Note. * = significance.

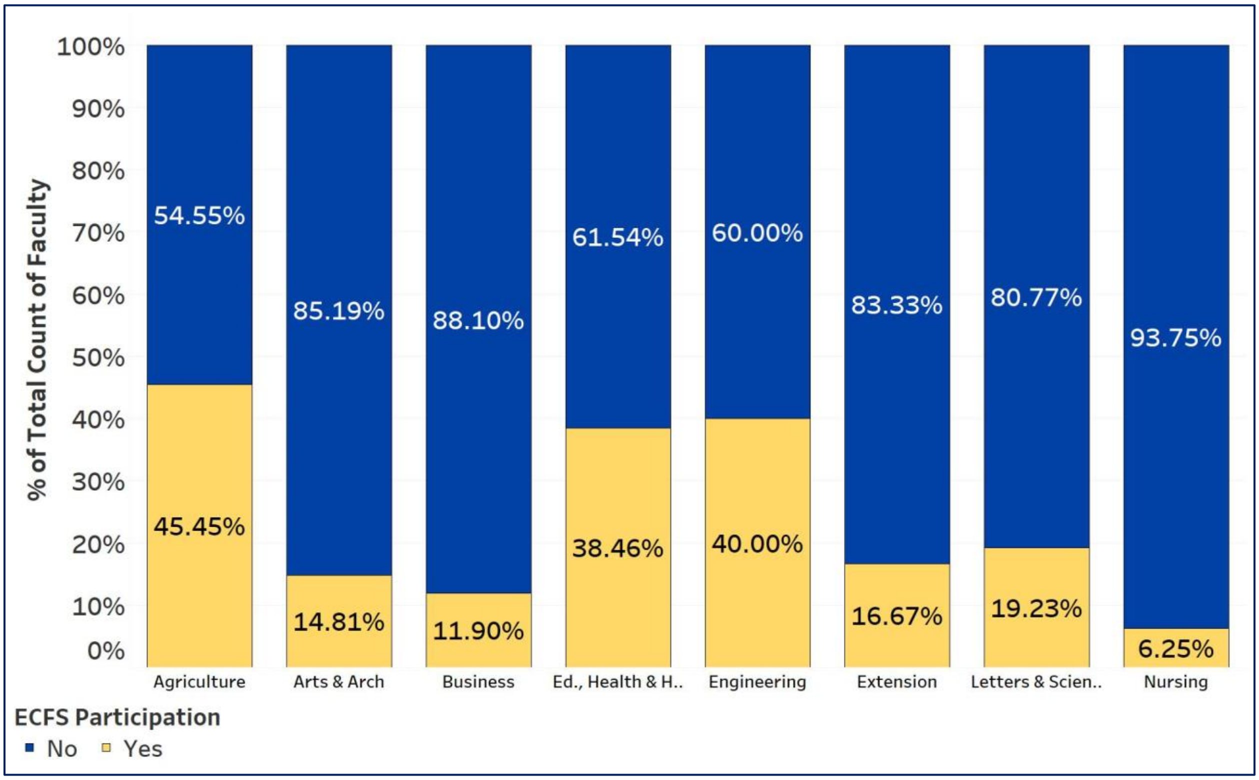

Figure 10: Distribution (%) of Program Participation by College

Table 14 provides a summary of the Chi-square results across the four demographic categories tested.

Table 14: Summary of Chi-square results for Demographic Categories

Demographic Category	*Pearson* χ^2	*p-value*	*Significance*	*Cramer's V*
Tenure Status	40.911	.000	*	.183
Gender	0.020	.888		.000
Race/Ethnicity	6.621	.037	*	.030
College	20.932	.004	*	.096

Summary

This study explores the impact of the Early Career Faculty Success (ECFS) program at Montana State University by analyzing faculty engagement with the institution's productivity reporting tool, alignment of self-reported activities with strategic plan objectives, and demographic differences between participants and non-participants. Using comparative associational analysis, the study investigates whether faculty engagement and reporting behavior differ based on ECFS participation and whether demographic factors are associated with program involvement.

The analysis includes four new-faculty cohorts from 2020 to 2023, with data assessed through weighted linear regression and Chi-square tests. To mitigate selection bias, Inverse Probability of Treatment Weights (IPTW) were employed. The regression models evaluated faculty engagement with the reporting tool, focusing on those records added directly by faculty vice those created through automated record generation. The Chi-square analysis examined demographic variables, including tenure status, gender, race/ethnicity, and college affiliation.

Descriptive data reveal that 223 new faculty met the inclusion criteria, of whom 42 (18.8%) participated in at least one ECFS session. Gender distribution among participants and non-participants was similar, but a higher proportion of ECFS participants identified as underrepresented minorities (URM) compared to non-participants. Tenure status showed the most notable difference, with 71.4% of ECFS participants being tenure-track or tenured faculty.

Weighted linear regression analysis demonstrated that ECFS participation was significantly associated with an increase in faculty-generated records in the reporting tool. However, when including all records, both faculty-added and system-generated, no statistically significant difference was found. Regarding alignment with strategic plan objectives, ECFS participation was significantly associated with a higher number of relevant activities reported, suggesting that program participants were more likely to engage in activities aligned with institutional priorities, or at least report them at a higher rate than non-participants.

Chi-square tests identified significant differences in tenure status, race/ethnicity, and college association between ECFS participants and non-participants. Tenure-track and tenured faculty were significantly more likely to participate, and URM faculty also participated at a higher rate than expected. College affiliation was also significantly associated with participation, with Engineering and Agriculture faculty participating at higher-than-expected rates, while Nursing faculty were underrepresented in the ECFS program.

Overall, findings indicate that ECFS participants engage more actively with the Faculty Success productivity reporting tool and report more activities aligned with strategic goals. The results also suggest that there are some significant associations between various faculty demographic categories and engagement in the EFCS program.

CHAPTER FIVE

CONCLUSIONS

Introduction

The problem addressed in this study is that administrators at Montana State University need to know whether the expansion of the one-day New Faculty Orientation into the nine-month Early Career Faculty Success program (ECFS) has had an impact on the culture (operationalized as faculty behaviors) of new faculty within the institution. The purpose of this quasi-experimental study is to identify whether the ECFS program has resulted in increasing the amount and type of activities (aligned with institutional goals and objectives) reported in the Faculty Success productivity reporting tool by new faculty who have participated in the program. The design of this project used a cross-sectional comparative approach to identify whether differences exist between those new faculty (both tenure-track and non-tenure track) who did and those new faculty who did not participate in the ECFS program. The population included 223 tenured, tenurable and non-tenurable faculty hired between August 1, 2020, and August 31, 2023. Only faculty hired at the start of each of the four academic years (had employment start dates between August 1 and August 31) were included.

Results show that there are some significant differences between the faculty who did and did not participate in the ECFS program. Those differences exist both in terms of their faculty activity reporting behaviors and who, based on demographic breakdown into subcategories, participated in the program. The overriding conclusion is that the ECFS program has had a statistically significant, though small impact on the behaviors of the program participants.

Research Questions

The responses to the specific research questions addressed in this study are detailed below.

Question 1

Do faculty who participated in the Early Career Faculty Success program engage with the faculty productivity reporting tool (Faculty Success) at a greater rate than faculty who did not participate in the ECFS?

When reviewing the results of the weighted linear regressions for owner added or modified (Figure 4) and total records created (Figure 5) in Faculty Success, two different outcomes are apparent. Recall that the owner added/modified records are the count of those records that the faculty member actively created or curated themselves. For those records we do see a statistically significant greater number (an average of 37.52 more) reported by faculty who have participated in the ECFS program compared to those who did not participate (Table 8). While statistically significant, it should be noted that the effect size was "modest" (at best).

Secondarily, the grand total number of Faculty Success records was also assessed via a weighted linear regression. The total number of records includes the previously mentioned owner added/modified records in addition to records created as a function of "external" processes, such as the number of course sections that a faculty is assigned that are then automatically populated into their profiles, and shared records, such as grants and publications where a collaborator has created the record which then populates the co-PIs and co-authors profiles. In this case, there was no statistically significant difference between participants and non-participants (Figure 5 and Table 8). When this result is viewed in conjunction with the above results regarding owner created/modified records, it provides greater evidence that the ECFS program had an effect on the individuals who participated rather than the results being due to some spurious relationship between the ECFS program and the Faculty Success tool.

Question 2

Do faculty who participated in the ECFS report more activities that reflect the kinds of things the institution's strategic plan intends to promote?

Figure 6 and Table 8 indicate that there is a statistically significant difference between the number of records ECFS participants have in their Faculty Success profiles that relate to the measurement of the institution's strategic plan compared to faculty who did not participate in the program. While statistically significant, the increased number of records has a smaller effect size ($\beta = 0.118$) and contribution to the regression model variance (2.3%) than the number of owner created/modified records assessed in Question 1 (Table 9).

Caution is advised in terms of interpreting this result. While participants are told in each of the ECFS session presentations on the strategic plan metrics, which screen(s) are used to track those specific metrics (where applicable), on average, faculty only attend 2.3 of the ECFS sessions through the academic year, so would not have comprehensive knowledge of all of the specific screens to address to try and maximize their contribution to the strategic plan. Also, the strategic plan total record count includes records, specifically grant and professional development records, that were not user created/modified. Based on those two considerations, it is not surprising that the effect size and contribution to variance in the weighted linear regression model is less than the that found in the owner created/modified records regression.

Question 3

Is there a difference in the demographic composition (faculty tenure status, gender, race/ethnicity, college) of participants compared to their non-participating new-faculty cohort peers?

Chi-square testing identifies that there are statistically significant differences in participation rates based on the new faculty member's tenure status, (aggregated) race/ethnicity, and college of hire. Gender did not show a statistically significant association with ECFS program participation. With regard to tenure status (Table 10 and Figure 7), it is clear that tenure-track and tenured faculty (only one of those) participated at a greater rate than non-tenure track faculty. While the Center for Faculty Success strives for the ECFS program to be inclusive of all faculty types and graduate students, this is a good indication that the ECFS program is reaching its "target" audience relative to its tacit goal of impacting the culture of the institution by orienting new faculty from the institution's perspective rather than a more myopic (perhaps) departmental/discipline based lens. The hiring of tenure-track faculty is often compared to the commitment associated with marriage whereby the hope is to develop and maintain a relationship with that new Assistant Professor that will be mutually beneficial for 30 or more years. New, non-tenure track faculty, in comparison, are typically not full-time and ephemeral in their employment with the institution. While some may hope for a long-term relationship (thus may chose to participate in the ECFS program), many are content to engage with the institution as a "side gig".

By aggregated race and ethnicity, we see that underrepresented minority (non-white) faculty participate at a statistically significant higher rate than other faculty. According to the National Center for Education Statistics (2024), 72% of post-secondary faculty in the U.S. are white. As identified by several authors (Austin, 2002; Austin & McDaniels, 2006; Gildersleeve, Croom & Vasquez, 2011; Morgan, LaBerge, Larremore, Galesic, Brand & Clauset, 2022), faculty generally strive to, and largely succeed in replicating themselves through both their mentoring of doctoral students and their control over faculty hiring (Brown, 2021; Liera, 2020; Morgan et al., 2022). Additionally, Morgan et al. (2022) have identified that faculty are 25 times more likely to have parents who hold Ph.D.'s. This might suggest that new, white faculty have a greater comfort level or pre-existing mentoring and support network as they embark at their new institution that their underrepresented minority colleagues lack. That perceived knowledge deficit may result in underrepresented minority faculty being more inclined to participate in programs such as the ECFS to give them a better idea of the expectations or "ins and out" of the institution.

College of hire also showed a statistically significant association with participation (Table 13 and Figure 10). Faculty from the College of Engineering were the most over-represented in the program. This may be a function of (as declared by C. Fastnow, former Director of MSU Planning & Analysis, personal communication) engineers being "rule followers" and participating because they saw it on their letters of hire, or their department head "encouraged" them to participate. College of Agriculture faculty were also overrepresented. In this case, the author has no ready supposition as to why that may be the case other than the possibility that department heads in that department may be more inclined to support their new faculty's participation for some reason. It should also be noted that that college has the second lowest total number of new faculty, so the statistically significant result could be influenced by the "small N". Lastly, College of Nursing faculty were underrepresented in the program. This is not surprising for two reasons. First, the College of Nursing's faculty is comprised principally of non-tenure track faculty (85% in 2024). As has already been discussed, non-tenure track faculty have been shown to be less likely to participate in the ECFS program than tenure-track faculty. Secondly, the majority of College of Nursing faculty live/operate/teach at one of the four remote nursing campuses across the state (Billings, Great Falls, Kalispell and Missoula). While the Center for Faculty Excellence staff consistently make video conference participation an option for the sessions, the added lift to engage through that medium may be enough to reduce participation from the college's faculty.

As mentioned above, the one non-statistically significant demographic association with ECFS participation was gender. As indicated in Table 11 and Figure 8, the counts of participants and non-participants were less than 0.5 of an "individual" from the Chi-square expected counts. Given the literature that indicates that women faculty participate in non-teaching and research activities (professional development, service, administrative duties, governance, student advising and mentoring, and committee work) at a higher rates than their male counterparts (Allen, Miller, French, Kim, Centeno, 2023; Guarino & Borden, 2017; O'Meara, Kuvaeva, Nyunt, Waugaman & Jackson, 2017), particularly at the junior faculty rank (Committee on the Economic Status of the Faculty, 2018), it is somewhat surprising to see such a balanced distribution.

Conclusions

As stated by Myers et al. (2014), behavior is not culture. They assert that behaviors can be independent of culture (influenced by formal rules, power structures, or external incentives) or the outcome of an organization's culture (Myers et al., 2014). However, there are some mixed results in the literature regarding whether mandated (top-down) behavioral changes lead, or have a causal relationship to organizational cultural changes (norms, beliefs, attitudes, etc.). The mandated racial and gender integrations of the U.S. military provide examples of how enforcing new behaviors produced cultural shifts in those organizations and in the beliefs and attitudes of its members (Moskos, 1966) that lasted beyond their service (Fischer, Lundquist & Vachon, 2016). In other contexts (e.g. corporate workplaces, educational settings and public sector agencies) the opposite results have been found. Various studies (Dobbin & Kalev, 2016; Tinkler, 2013; Peterson & McCleary, 2014) have identified that in corporate or public sector organizations, mandated behaviors can result in the kind of increased resistance to those behaviors that Lewin's Force Field Analysis (Figure 2) would anticipate.

The title of this study asks whether there is an impact on Montana State University's institutional culture based on a top down or directed organizational change initiative. Simply put, the answer is no. While the "intervention", the creation of the Early Career Faculty Success program, has had a statistically significant impact on some measured behaviors used as proxies or to operationalize "culture change", the effect sizes are small. Also important to consider is the relatively small number of participants in the program, 42 (18.8%) out of the 223 new faculty that met defined criteria over the four-year period, or 3% of the total faculty headcount. While London, Madner and Skerritt (2021) state that it only takes 7% of an organization's employees to reach the tipping point for a successful change implementation, MSU has not yet reached that milestone. These two factors suggest that in regard to this intervention, the institution is still a ways from having its goal of differentiation, based on faculty adoption, internalization and accounting of their activities in support of the organizations strategic plan, "institutionalized" (Curry, 1992). That is not to say that culture change cannot happen through the prescribed mechanism in the future. If the efforts to date were considered to have been implemented with the Deming Cycle (Plan-Do-Study-Act) in mind (Sower, 2010), this work might constitute the "study" phase, and the Office of Academic Affairs and Center for Faculty Excellence would need to consider what next steps they might take as part of the subsequent "act" phase.

Recommendations

Based on the results of this study, the author makes the following two recommendations that address both sides of Lewin's Force Field Analysis (Figure 2) to support organizational change. The first recommendation is that the institution (Office of Academic Affairs) "augment" the driving forces to get new (primarily tenure-track) faculty to attend the Early Career Faculty Success program. As mentioned earlier in this work, tenure-track faculty already have the "obligation" to participate in first-year Center for Faculty Excellence programming written into their initial Letter of Hire. Increasing the driving force would be to enforce that clause of the contract. As Hayes (2022) indicates, when increasing driving forces to affect change on a system in stable, or quasi-stationary equilibrium, a frequent response in the system is increased tension, or resistance, particularly in a loosely coupled organization like most higher education institutions are.

The second recommendation is to work to decrease the restraining forces in Lewin's model. In other words, what can be done to reduce the friction or resistance to participation in the ECFS program. Collins & Lazier (2020) would suggest that being more inclusive in the design of change processes, particularly including those who will be affected most by the change, is more likely to reduce the tension and resistance to changes. Therefore, the author would recommend that the Center for Faculty Excellence survey, interview or hold focus groups with new faculty who did not participate to find out why. At the same time, the CFE should convene a group of academic department heads to discuss and adjust the content and curriculum of the Early Career Faculty Success program so that the supervisors of future new faculty feel a sense of ownership or investment in the program, thus are more inclined to facilitate their faculty's participation. It would also be important, as Collins & Lazier (2020) state, to include department heads who seem less inclined or less supportive of having their new faculty participate. If their issues and concerns are addressed, it is likely that other department heads with less hesitance about encouraging their new faculty's participation will be reassured to have them engage.

Further Research

The overarching question seems to remain unanswered, particularly in the higher education context. Can hoped for (a more usual outcome in the context of change at U.S. higher education institutions) or mandated behaviors have an impact on institutional cultures? Under the current federal executive office (President Trump), researchers will have a likely opportunity to explore that question on a macro scale. Under a series of executive orders, the federal government is attempting to mandate the end of diversity, equity and inclusion (DEI) efforts and redefine how Title IX of the Education Amendments Act of 1972 is applied. Higher education institutions across the country are responding (behaviorally) in several ways. Enterprising researchers could explore (perhaps through pretest-posttest designs) whether institutional cultures exhibit any cultural shifts over the next (at least) four years based on those behavioral mandates being imposed.

Summary

This study examined whether the expansion from a one-day New Faculty Orientation to a comprehensive nine-month Early Career Faculty Success (ECFS) program at Montana State University influenced faculty behaviors aligned with institutional goals. Utilizing a cross-sectional comparative design, the research evaluated faculty productivity reporting behaviors among 223 faculty members hired between August 2020 and August 2023. Comparison was made between those who did and those new faculty who did not participate in the ECFS program.

Findings revealed significant yet modest differences in self-initiated faculty productivity reporting activities among ECFS participants compared to non-participants. Additionally, ECFS participants reported slightly more activities aligned with institutional strategic goals. However, these differences, while statistically significant, demonstrated small effect sizes and limited contributions to overall model variance. Demographically, tenure-track faculty, underrepresented minority groups, and those from the Colleges of Engineering and Agriculture participated at higher rates. Conversely, non-tenure-track and College of Nursing faculty engaged less frequently, the latter likely due to geographical challenges and employment structure.

Despite these findings, the broader question, whether mandated behavioral changes lead to genuine institutional cultural shifts, remains largely unanswered. Given the small effect sizes and low participation rate, the ECFS program has not reached the critical mass necessary for substantial cultural transformation. To strengthen the impact of the ECFS program, two primary recommendations are proposed. First, the MSU administration should reinforce contractual obligations encouraging new tenure-track faculty participation. Secondly, efforts should focus on reducing participation barriers through inclusive program design and targeted engagement with department heads.

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APPENDICES

APPENDIX A

PROPOSAL FOR NEW FACULTY ORIENTATION

Montana State University – New Faculty Orientation

Background

According to Roche's *Realizing the Distinctive University: Vision and Values, Strategy and Culture*, lasting institutional change is most effectively accomplished via sustained and consistent exposition of expectations to develop community norms. For at least the past two decades, if not longer, Montana State University (MSU) has attempted to do this in a top-down manner; *i.e.* enculturate deans with the hope that they will then transmit the institution's expectations and norms down the "chain of command". This approach has not met with much success.

It is time for a bold, alternate approach. Taking Roache's approach of requiring new department heads to participate in a year-long department head orientation, we need to extend, and **require**, new faculty at MSU to participate in a year-long orientation.

Program Responsibility & Structure

Responsibility for program delivery will reside primarily with the Center for Faculty Excellence (CFE). Because the structure of the year-long program revolves around the institution's strategic plan, the Office of Planning & Analysis will provide support as appropriate.

As identified above, the core around which the new faculty orientation "curriculum" will be developed will be the MSU Strategic Plan (currently, Choosing Promise). As identified in the strategic plan, the "…plan sets overarching goals for the university and relies on every member of the MSU community – students, faculty, staff, alumni and our community partners – to contribute to its success." Since faculty can be considered, "the principal factor of production" in higher education (as described by Dr. Rich Howard), orienting each new faculty cohort to the Intentional Focuses, embedded Goals of the institution, and tactics to accomplish them, may be the most direct and efficient way for MSU to realize its longer term objectives.

The program will be delivered over 10 months, with the first meeting being an entire day long in August, and subsequent meetings lasting one half day each month through May.

As the current strategic plan has ten goals (within the three intentional focuses), it seems appropriate to explore one goal each month. "Exploring" the goals will include reviewing what they are, where they came from, and what tools the university provides to support, or faculty can develop to move the institution forward.

The 10 goals and some possible topics are:

1. Drive Transformational Learning Experiences Creating Outstanding Educational Outcomes for All Students
    1.1. Broaden access for underrepresented populations and increase academic success for all students through excellence in undergraduate education.

As the state's land-grant university, Montana State invites participation in exceptional higher education, widens participation of under-represented student populations, and improves student success outcomes overall.

- Trends to and most recent status on metrics 1-7.
- Retention and graduation rates compared to peer institutions.
- What we know about projected versus actual retention and graduation rates.
- How this goal interacts with MUS Performance Funding Model metrics.
- Nominating students for awards.
- Creating inclusive classrooms and assignments.

1.2. Expand high-quality graduate education.

Montana State University will enroll and graduate more degree-seeking students at the graduate level and enhance the quality of graduate degree programs.

- Trends and most recent status on metrics.
- Graduate School policies and procedures.
- Effective mentoring of graduate students.
- Diverse graduate career paths.
- Effective graduate student recruiting practices

1.3. Implement evidence-based high quality, high impact teaching and learning practices for every student.

Montana State University improves the curricular and co-curricular experience with demonstrated educational practices integrated with discovery and engagement that enhance learning and develop engaged global citizens and informed professionals.

- Trends and most recent status on metrics.
- Structure, learning outcomes, and assessment of MSU's core.
- High quality, high impact pedagogical practices (HIPs).
- How to integrate HIPs into teaching.
- Collaboration with Student Success and its services.
- Student engagement efforts and opportunities at MSU and within the community.

2.1. Enhance the significance and impact of scholarship.

Montana State University research and creative activity demonstrates impact on the state's and the world's pressing challenges through application of our discoveries in communities, industry, and organizations, as well as through academic indicators of the expansion of knowledge.

- Trends and most recent status on metrics.
- Genesis and scope of grand challenges.
- Exemplar Grand Challenge research teams.
- Orientation to Office of Sponsored Programs services.

- Effectively integrating students into research programs/opportunities.
- Undergraduate Scholars Program at MSU.
- Scholarship of engagement and engaged scholarship.

2.2. Expand interdisciplinary scholarship.

Montana State University's interdisciplinary expertise as the University of the Yellowstone™ carries unique possibilities for inference, translation, and impact. Our research and creative activity throughout the university increasingly spans traditional disciplinary boundaries to solve the world's pressing challenges.

- Trends and most recent status on metrics.
- University of the Yellowstone overview.
- Tools to explore interdisciplinary opportunities at MSU.
- Exemplar interdisciplinary research teams.

2.3. Strengthen institutional reputation in scholarship.

Montana State University's success in scholarship results in increased state, national and international prominence.

- Trends and most recent status on metrics.
- How MSU defines the institution's scholarship reputation (Academic Analytics).
- Documenting scholarship at MSU (Activity Insight, ScholarWorks, OSP).
- How MSU works to support faculty in earning national and international awards.

2.4. Elevate expectations for scholarship.

Montana State University faculty, staff, and students hold themselves to the highest standards of research and creative outcomes.

- Trends and most recent status on metrics.
- What are the scholarship expectations at MSU; a.k.a. getting to know your department P&T documents.
- Mini grant writing boot camp, with additional emphasis on interdisciplinary and/or HASS-related grants
- Funding research support staff and graduate students on grants.

3.1. Increase mutually beneficial collaborations with Tribal nations and partners.

Montana State University works cooperatively with Tribal governments, colleges, community groups and Indigenous students to develop and achieve beneficial outcomes.

- Trends and most recent status on metrics.
- What is Community Based Participatory Research?
- Tribal communities and institutions in Montana.
- Overview of current tribal partnerships.
- Tools to explore and develop new partnerships

- Documenting mutually beneficial outcomes.

3.2. Grow mutually beneficial partnerships across Montana.

Montana State University and its partners attain collaboratively defined outcomes that improve the lives and livelihoods of Montanans.

- Trends and most recent status on metrics.
- Review of MSU partnership development plan.
- Overview of local and state partnerships.
- Review of regional workforce and academic needs.

3.3. Foster a culture of collaboration, continuous improvement and individual growth.

Montana State University and its students, faculty, and staff engage in a reciprocal relationship that values each member and improves the university environment.

- Trends and most recent status on metrics.
- The Student Success Division at MSU.
- Professional and personal development opportunities at MSU (CFE, UHR, MUS Wellness).
- MSU's Diversity & Inclusion Plan.
- MSU's Sustainability Plan.

Attendance

As identified in the background section, attendance at the year-long new faculty orientation is mandatory. This needs to be clearly communicated to both the new faculty participants and their department heads and deans. Scheduling of course assignments should avoid the designated training times, which will be rigorously adhered to. If they have course conflicts, it is their and their department head's responsibility to find a guest instructor or alternative class activity for any classes the new faculty might miss. Out of state conferences (where the new faculty member is presenting a paper or poster), or sickness, are the only excuses for missing a single session. Unexcused absence from more than one session will result in a "Below Expectations" on their Faculty Annual Review.

APPENDIX B

INITIAL DRAFT OF EARLY CAREER FACULTY SUCCESS PROGRAM

Early Career Faculty Success Program
http://www.montana.edu/facultyexcellence/programscert/earlycareersuccess.html
http://www.montana.edu/facultyexcellence/programscert/earlycareerflc.html

Background Information:
The orientation of new faculty at any institution is essential for creating the culture of the university. Faculty touch student's lives like no other position on campus. They witness their struggles and successes and shape the future of this institution. According to Roche's *Realizing the Distinctive University: Vision and Values, Strategy and Culture*, lasting institutional change is most effectively accomplished via sustained and consistent exposition of expectations to develop community norms. Therefore, as they begin their career here, we propose to require a year-long orientation process to give faculty the tools, connections, training and support for them to be able to support students, each other and Montana State achieve their mission and goals to integrate education, creation of knowledge and art and service to communities – transforming lives and communities in the people's interest.

This program is based on Faculty Onboarding at the University of Oregon and their "New Faculty Success Program." It also incorporates the proposal by Ian Godwin, Office of Planning and Analysis to incorporate the Strategic Plan goals into the program as the strategic focus.

Goals of the Program

- Build a welcoming and inclusive culture that spreads into classroom, research, creative and community spaces.
- Equip faculty with the knowledge of how to promote student success through
    - Taking advantage of student support services
    - Seeking out a network of mentors
    - Participating in professional development and training
    - Seeking internal and external grants to support education, research and creativity
- Understanding expectations around retention, tenure and promotion
- Provide a central resource for information as they begin their career at MSU

Structure
The program consists of several activities that support these goals:
- New Faculty Welcome package – sent in June 2020
- New Faculty Website - http://www.montana.edu/newfaculty (that will be pointed to http://www.montana.edu/facultyexcellence/programscert/newfaculty/index.html)
- New Faculty Orientation – August 11, 2020
- Faculty Mentoring Program
- Early Career Faculty Learning Community – This year-long program consists of monthly 1.5-hour sessions structured around a central theme (see curriculum below), and complemented by webinars from the National Center for Diversity and Development and workshops on different topics highlighted at New Faculty Orientation. The context setting of each monthly session will be done by the moderator relating it to the strategic

plan (strategic focus). The sessions will be outlined in a Brightspace course to allow new faculty to see the tool in action and become familiar with how it is used. As follow-up, faculty will be asked to submit a reflection on each topic and participate in online discussion forums related to the session theme.

Attendance

As identified in the background section, attendance at the year-long new faculty orientation is mandatory. This will be clearly communicated to both the new faculty participants and their department heads and deans. Scheduling of course assignments should avoid the designated training times, which will be rigorously adhered to. If they have course conflicts, it is their and their department head's responsibility to find a guest instructor or alternative class activity for any classes the new faculty might miss. Out of state conferences (where the new faculty member is presenting a paper or poster), or sickness, are the only excuses for missing a single session. Unexcused absence from more than one session will result in a "Below Expectations" on their Faculty Annual Review.

Curriculum Overview

Session 1: September Successfully Navigating the University System

- Workshops: Teaching Online, Active Learning Basics, Intro to Grants and Finding Funding
- Overview of the Strategic Plan and how it impacts the university culture.

Session 2: October Successfully Navigating Challenges in the Classroom

- Workshops: Academic Misconduct & Classroom Management, PI Training, Recognizing & Referring Students with Mental Health
- **Goal 1.1** Broaden access for underrepresented populations and increase academic success for all students through excellence in undergraduate education.

Session 3: November Strategies for Enhancing Your Productivity in Research, Creative Practice, and/or Teaching

- Workshops: Researcher Visibility, Title IX/Mandatory Reporter Training, Join a Writing Group
- **Goal 1.3:** Implement evidence-based high quality, high impact teaching and learning practices for every student.
- **Goal 2.1:** Enhance the significance and impact of scholarship.

Session 4: December Successfully Cultivating your Network of Mentors, Sponsors, and Collaborators

- Workshops: Academic Advising, Incorporating Learning Outcomes
- **Goal 3.1:** Increase mutually beneficial collaborations with Tribal nations and partners.

Session 5: January Departmental Expectations for Career and Tenure Track Faculty

- Workshops: Grant-Writing Bootcamp, Capture Your Teaching Learn How to Record Lectures, Activity Insight and Your Annual Reviews
- **Goal 2.4:** Elevate expectations for scholarship.

Session 6: February Moving through Resistance and Successful Grant Writing and Fellowships

- Workshops: NSF CAREER Grant Panel, Information Sessions on Internal Grants
- **Goal 2.3:** Strengthen institutional reputation in scholarship.

Session 7: March Successfully managing your life as an academic

- Workshops: Navigating the Publishing Process, Mentoring Undergraduates in Research,
- **Goal 3.3:** Foster a culture of collaboration, continuous improvement and individual growth.

Session 8: April Your Strategic Plan, Service Expectations, and Choosing Venues for Your Work

- Workshops: Best Practices in Assembling RTP Dossiers
- **Goal 3.2**: Grow mutually beneficial partnerships across Montana.

Session 9: May Managing Grads, Labs, Teams, and Difficult Colleagues

- Workshops: Managing Conflict in Academia, Research Mentoring (Graduate Students)
- **Goal 2.2:** Expand high-quality graduate education.

Full Curriculum:
Navigating the University and Expectations of an Academic Career

Session 1: September
Faculty Panel: Successfully Navigating the University System
NCFDD curriculum: Every semester (term) needs a plan
Workshops: Active Learning Basics, Intro to Grants and Finding Funding, Join a Writing Group
Strategic Focus:
Overview of the Strategic Plan and how it impacts the university culture.

Session 2: October
Faculty Panel: Successfully Navigating Challenges in the Classroom
NCFDD curriculum: Overcoming academic perfectionism
Workshops: Academic Misconduct & Classroom Management, PI Training, Recognizing & Referring Students with Mental Health
Strategic Focus:
Goal 1.1 Broaden access for underrepresented populations and increase academic success for all students through excellence in undergraduate education.
As the state's land-grant university, Montana State invites participation in exceptional higher education, widens participation of under-represented student populations, and improves student success outcomes overall.

- Trends to and most recent status on metrics 1-7.
- Retention and graduation rates compared to peer institutions.
- What we know about projected versus actual retention and graduation rates.
- How this goal interacts with MUS Performance Funding Model metrics.
- Nominating students for awards.
- Creating inclusive classrooms and assignments.

Session 3: November
Faculty Panel: Strategies for Enhancing Your Productivity in Research, Creative Practice, and/or Teaching
NCFDD curriculum: How to develop a daily writing practice
Workshops: Researcher Visibility, Title IX/Mandatory Reporter Training
Strategic Focus:
Goal 1.3: Implement evidence-based high quality, high impact teaching and learning practices for every student.
Montana State University improves the curricular and co-curricular experience with demonstrated educational practices integrated with discovery and engagement that enhance learning and develop engaged global citizens and informed professionals.

- Trends and most recent status on metrics.
- Structure, learning outcomes, and assessment of MSU's core.
- High quality, high impact pedagogical practices (HIPs).
- How to integrate HIPs into teaching.

- Collaboration with Student Success and its services.
- Student engagement efforts and opportunities at MSU and within the community.

Goal 2.1: Enhance the significance and impact of scholarship.
Montana State University research and creative activity demonstrates impact on the state's and the world's pressing challenges through application of our discoveries in communities, industry, and organizations, as well as through academic indicators of the expansion of knowledge.

- Trends and most recent status on metrics.
- Genesis and scope of grand challenges.
- Exemplar Grand Challenge research teams.
- Orientation to Office of Sponsored Programs services.
- Effectively integrating students into research programs/opportunities.
- Undergraduate Scholars Program at MSU.
- Scholarship of engagement and engaged scholarship.

Session 4: December
Faculty Panel: Successfully Cultivating your Network of Mentors, Sponsors, and Collaborators
NCFDD curriculum: Cultivating your network of mentors, sponsors, & collaborators
Workshops: Academic Advising, Incorporating Learning Outcomes
Strategic Focus:

Goal 3.1: Increase mutually beneficial collaborations with Tribal nations and partners.

Montana State University works cooperatively with Tribal governments, colleges, community groups and Indigenous students to develop and achieve beneficial outcomes.

- Trends and most recent status on metrics.
- What is Community Based Participatory Research?
- Tribal communities and institutions in Montana.
- Overview of current tribal partnerships.
- Tools to explore and develop new partnerships
- Documenting mutually beneficial outcomes.

Session 5: January
Faculty Panel: Departmental Expectations for Career and Tenure Track Faculty
NCFDD curriculum: How to align your time with your priorities
Workshops: Grant-Writing Bootcamp, Capture Your Teaching Learn How to Record Lectures
Strategic Focus:

Goal 2.4: Elevate expectations for scholarship.

Montana State University faculty, staff, and students hold themselves to the highest standards of research and creative outcomes.

- Trends and most recent status on metrics.
- What are the scholarship expectations at MSU; a.k.a. getting to know your department P&T documents.

- Mini grant writing boot camp, with additional emphasis on interdisciplinary and/or HASS-related grants
- Funding research support staff and graduate students on grants.

Session 6: February
Faculty Panel: Moving through Resistance and Successful Grant Writing and Fellowships
NCFDD curriculum: Moving from resistance to writing
Workshops: NSF CAREER Grant Panel, Information Sessions on Internal Grants
Strategic Focus:

Goal 2.3: Strengthen institutional reputation in scholarship.

Montana State University's success in scholarship results in increased state, national and international prominence.

- Trends and most recent status on metrics.
- How MSU defines the institution's scholarship reputation (Academic Analytics).
- Documenting scholarship at MSU (Activity Insight, ScholarWorks, OSP).
- How MSU works to support faculty in earning national and international awards.

Session 7: March
Faculty Panel: Successfully managing your life as an academic
NCFDD curriculum: Mastering academic time management
Workshops: Navigating the Publishing Process, Mentoring Undergraduates in Research, Teaching Online
Strategic Focus:

Goal 3.3: Foster a culture of collaboration, continuous improvement and individual growth.

Montana State University and its students, faculty, and staff engage in a reciprocal relationship that values each member and improves the university environment.

- Trends and most recent status on metrics.
- The Student Success Division at MSU.
- Professional and personal development opportunities at MSU (CFE, UHR, MUS Wellness).
- MSU's Diversity & Inclusion Plan.
- MSU's Sustainability Plan.

Session 8: April
Faculty Panel: Your Strategic Plan, Service Expectations, and Choosing Venues for Your Work
NCFDD curriculum: The art of saying no
Workshops: Best Practices in Assembling RTP Dossiers
Strategic Focus:

Goal 3.2: Grow mutually beneficial partnerships across Montana.

Montana State University and its partners attain collaboratively defined outcomes that improve the lives and livelihoods of Montanans.

- Trends and most recent status on metrics.
- Review of MSU partnership development plan.
- Overview of local and state partnerships.
- Review of regional workforce and academic needs.

Session 9: May
Faculty Panel: Managing Grads, Labs, Teams, and Difficult Colleagues
NCFDD curriculum: How to engage in healthy conflict
Workshops: Managing Conflict in Academia, Research Mentoring (Graduate Students)
Strategic Focus:
Goal 2.2: Expand high-quality graduate education.
Montana State University will enroll and graduate more degree-seeking students at the graduate level and enhance the quality of graduate degree programs.

- Trends and most recent status on metrics.
- Graduate School policies and procedures.
- Effective mentoring of graduate students.
- Diverse graduate career paths.
- Effective graduate student recruiting practices

APPENDIX C

COMPLETE DATA FILE VARIABLES & SOURCES

Report from Faculty Activities (in Faculty Success)	
Unique Identifier	Month of Hire
Gender	Day of Hire
Race/Ethnicity	Year of Hire
Under Represented Minority (URM) (Derived - "White", “URM” – non-white, “R/E Unk”)	Date of Hire
Tenure Status (At Hire)	Month of Separation
Department (At Hire)	Day of Separation
College (At Hire)	Year of Separation
Faculty Title/Rank	Date of Separation
Usage Statistics (in Faculty Success)	
UG Academic Advising - Other	Professional Memberships - Owner Added
UG Academic Advising - Owner Added	Professional Memberships - Total
UG Academic Advising - Total	Other Instruction - Owner Added
Yearly Data - Other	Other Instruction - Total
Yearly Data - Owner Added	Previous Positions - Other
Yearly Data - Total	Previous Positions - Owner Added
Administrative Assignments - Other	Previous Positions - Total
Administrative Assignments - Owner Added	Personal & Contact Info - Other
Administrative Assignments - Total	Personal & Contact Info - Owner Added
Permanent Data - Other	Personal & Contact Information - Total
Permanent Data - Owner Added	Artistic & Creative Activ. - Owner Added
Permanent Data - Total	Artistic & Creative Activ. - Total
Awards & Honors - Other	Presentations - Other
Awards & Honors - Owner Added	Presentations - Owner Added
Awards & Honors - Total	Presentations - Total
Grants & Sponsored Research - Other	Biography & Expertise - Other
Grants & Sponsored Research - Owner Added	Biography & Expertise - Owner Added
Grants & Sponsored Research - Total	Biography & Expertise - Total
Consulting - Owner Added	Non-OSP Research - Other
Consulting - Total	Non-OSP Research - Owner Added
Directed Student Learning - Owner Added	Non-OSP Research - Total
Directed Student Learning - Total	Scheduled Teaching - Other
Graduate Committees - Other	Scheduled Teaching - Owner Added
Graduate Committees - Owner Added	Scheduled Teaching - Total
Graduate Committees - Total	Service (Professional) - Owner Added
Education - Other	Service (Professional) - Total
Education - Owner Added	Service (Public) - Other

Education - Total	Service (Public) - Owner Added
Engagement Plan - Owner Added	Service (Public) - Total
Engagement Plan - Total	Service (University) - Other
Engagement Results - Owner Added	Service (University) - Owner Added
Engagement Results - Total	Service (University) - Total
Faculty Professional Enhanc - Other	Grad/Post-Grad Training - Owner Added
Faculty Professional Enhanc - Owner Added	Grad/Post-Grad Training - Total
Faculty Professional Enhancement - Total	Web Profile - Other
Publications/Intellectual Contrib. - Other	Web Profile - Owner Added
Publications/Intellectual Contrib. - Owner Added	Web Profile - Total
Publications/Intellectual Contributions - Total	Annual Workload Distrib. - Other
Copyrights/Patents - Owner Added	Annual Workload Distrib. - Owner Added
Copyrights/Patents - Total	Annual Workload Distrib. - Total
Licensures & Certifications - Owner Added	*Strategic Plan Metric Records- TOTAL*
Licensures & Certifications - Total	*Owner Added Records - TOTAL*
Media Appear & Interviews - Owner Added	*Other & Owner Added Records - TOTAL*
Media Appear & Interviews - Total	
Center for Faculty Excellence Attendance & Faculty Activities (in Faculty Success)	
ECFS Participation (Derived: If participation in any session, then "Yes")	Session 6 - Feb
Session 1 - Sept	Session 7 - Mar
Session 2 - Oct	Session 8 - Apr
Session 3 - Nov	Session 9 - May
Session 4 - Dec	*Sessions Attended - TOTAL*
Session 5 - Jan	