

Program Prioritization Criteria

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Program Prioritization Criteria

North Carolina State University (NCSU or NC State) is a research-focused, land-grant, and public university which is similar to Northern Illinois University (NIU) previously analyzed (North Carolina State University [NCSU], 2013; Northern Illinois University, n.d.). Specific information regarding NCSU's various programs, institutional data collection, and an interview with relevant personnel is accessible, so I have chosen to analyze NCSU instead of NIU.

Background

Institutional Background

NCSU is a part of a seventeen-institution system operating under a local and statewide governing board with direct cooperation between the University of North Carolina System Office (UNC SO) and the NC State Council of Deans and the Provost (NCSU, n.d.a; University of North Carolina Governing Board, n.d.). Established as "North Carolina College of Agriculture and Mechanic Arts" in 1887, North Carolina State University is now a multi-campus public institution who continues to support the state's top economic driver, agriculture (Wikimedia Foundation, 2021; NCSU, n.d.b).

Existing Data

In the last twenty years, the UNC SO pushed for NCSU to be more inclusive leading to program proliferation (Obermiller, personal communication, February 26, 2021). Before approving a new program, NCSU's Provost and UNC SO must approve a detailed proposal presenting the: "Description and purpose, student demand, unnecessary duplication (of a similar program offered through the UNC SO system), enrollment estimate, and resources required" among other criteria (NCSU, n.d.a). Additionally, NCSU annually publishes a common data set reporting standardized information including student enrollment, program enrollment, student performance, and many other categories (NCSU, 2020). This yearly quantitative data coupled with the qualitative data from the new program application should provide substantial support to the program prioritization team.

Introduction

Dickeson (2010) explains the focused goal of program prioritization is to measure and compare the "relative worth of a program against all other programs at the same institution" (p. 67).

This paper suggests a primary list of criteria to decide which programs to invest in, maintain, or divest from. To practically illustrate the deciding criteria, I interviewed John Obermiller, a research assistant at the Mountain Horticultural Crops Research and Extension Center (MHCREC). Now retired after 38 years in this position, Obermiller regularly consults with the MHCREC researchers.

Program Prioritization Criteria

Criteria 1: History, Development, and Expectations

The first, and most fundamental prioritization criterion to be analyzed is the “history, development, and expectations of the program” (Dickeson, 2010, p. 66). To assess program efficacy, one must first evaluate a program’s initial purpose, evolution, and adaptation to modern demands (Dickeson, 2010). NC State’s mission prioritizes research and innovation, specifically in agriculture and mechanics (NCSU, 2013). Each of the schools within the UNC system were founded with a specific initiative in mind. For example, UNC Greensboro was initially known as the State Normal and Industrial School in tribute to its focus on education and industry (Wikimedia Foundation, 2021). Although NCSU has highly rated humanities and educational programs, the demand for such programs could be satisfied by a different institution within the UNC system if the programs are evaluated through a strictly historical lens (NCSU, 2013).

NC State has a strong history of manufacturing and textile innovation. Their fingerprint can be seen in many modern advancements including NASA’s space shuttles who use tiles and fabric developed by NCSU (Obermiller, personal communication, February 26, 2021). Returning to agricultural advancements, NCSU holds many revenue earning patents on agricultural advancements such as growing techniques and varieties of fruits and vegetables.

One program John Obermiller periodically consults on is led by Dr. Jeanine Davis, a NCSU researcher operating at the MHCREC. She is conducting a small, relatively new research initiative funded by the university, research grants, and collaboration with Sierra Nevada. This research is a discrete program under the agricultural research department’s umbrella because it consumes unique resources (Dickeson, 2010). Dr. Davis hopes to identify a variety of the hops plant that could thrive in a mountainous climate (Obermiller, personal communication, February 26, 2021). Hops only flourishes in a dry, stable climate such as is found in Washington, Oregon, and Idaho. In fact, these

three states account for nearly 100% of hops grown in America introducing challenges for breweries on the east coast (Shahbandeh, 2021). The hops flowers are a key ingredient in brewing beer due to their flavor and antimicrobial properties. Unfortunately, it becomes a costly ingredient due to transportation and loss of business from the many consumers who embrace products made with locally sourced ingredients. (Obermiller, personal communication, February 26, 2021). The results of the study have been promising thus far. Dr. Davis has been able to harvest hops flowers from her locally grown plants to be used by local craft brew giant, Sierra Nevada, in test batches (Sierra Nevada Brewing Company, 2021).

Criteria 7: Revenue and Other Resources Generated

If NCSU is successful in developing a hybrid of hops that is suitable for brewing and capable of being grown locally, they will be able to patent the technology for use in future revenue. Furthermore, they would be responsible for an agricultural innovation that could bring respect and clout to the researchers and the university as a whole.

Criteria 8: Cost and Expenses Associated

Revenue and resources generated cannot be evaluated without also considering “criteria 8, the cost and expenses associated with the program” (Dickeson, 2010, p.66). Twenty to thirty years ago, all agriculture research at NC State was funded through legislation. Of course, financial priority was given to revenue earning crops including, but not limited to, tobacco, tomatoes, corn, soybeans, and cotton. Not only has sources of funding changed but revenue earning crops have as well. With the exception of corn, soybeans, and cotton, all agriculture research is grant funded (Obermiller, personal communication, February 26, 2021). Research is an ongoing and costly process. NCSU has many research initiatives operating simultaneously, so they must bring in revenue or resources to be sustainable.

Dickeson (2010) explains that "a major resource of a program can be its relationships" whether those relationships include other institutions, corporations, or simply other programs within NC State (p. 82). Much of NCSU's agricultural research addresses specific concerns North Carolina farmers encounter and directly positively impacts the state's economy in an amount "of about \$1.7 billion annually" (NCSU, 2013). This history, among other factors, has encouraged "more than 60

corporate, nonprofit and government partners" to engage meaningfully with NC State (NCSU, 2013). Although initially costly, research programs should be valued for the revenue and clout it can potentially provide for the university.

Criteria 2: External Demand for the Program

"NC State's background with agriculture and horticulture, as well as their manufacturing and textile programs is a huge reason they are rated so highly as an institution today. If they lost their history of agriculture they wouldn't be rated so highly", Obermiller explains (personal communication, February 26, 2021). Despite this historical background of agriculture research, modern external demand has shifted to favor technological initiatives over agricultural initiatives

Fortunately, NCSU has well established partnerships with technology giants such as SAS, IBM, and 3M. These, and other technology companies financially support buildings, research initiatives, and internships for NC State students (Obermiller, personal communication, February 26, 2021). External demand from local industries is clearly a driving force for program success and relevance. New and existing programs must have the potential to support local industries to continue advancing the institutional mission.

Criteria 6: Size, Scope, and Productivity

NCSU must carefully evaluate the "size, scope, and productivity" of programs to ensure they are appropriately sized and contributing meaningfully to the institution (Dickeson, 2010, p. 66). This criterion is especially important because NC State is the largest four-year institution in North Carolina. Composed of ten colleges and over eight thousand members of faculty and staff, programs could lack efficiency or "become skewed, due to faculty interests, and may not be providing adequate content exposure to its students" (Dickeson, 2010, p. 80).

Furthermore, programs must demonstrate adaptability to extreme changes to continue being a priority of the university. Agriculture research has drastically reduced in size and scope but still is expected to operate with a similar level of productivity to continue receiving funding. For instance, between 1978 and 2017 John Obermiller watched the Henderson county apple industry shrink from including about 16,000 acres of apples and several hundred growers to about 6,000 acres and about 100 growers or less (Lacey, 2017).

Criteria Carrying Less Weight

Criteria 3, “internal demand for a program” is less important for NCSU to consider because funding for research initiatives is mostly grant-driven, so it is difficult for researchers to stray from their grant focus (Dickeson, 2010, p. 66). Obermiller explained that early in his career, researchers could pursue side projects driven by internal demand or investigate questions that stem from their original research initiative, but now resources are restricted and there is intense pressure to either “publish or perish” (personal communication, February 26, 2021). If you publish, you receive revenue through recognition, publicity, elevating the university’s clout, or continued funding. Therefore, Programs at NCSU are largely driven by revenue and resource generation and external demand rather than internal demand.

Similarly, Criteria 9, “the impact, justification, and overall essentiality of a program” is less important than its history, external demand, size, revenue, or cost. Obermiller explained,

“The people making the decisions are higher up and look beyond the local guy. They don’t care about the social or local impact like they should. Now it’s grant driven, so they don’t care about long term employees in one commodity because they’re working with temporary positions” (Personal communication, February, 26, 2021).

In short, if the research program does not have revenue potential, it is not a priority.

Conclusion

Utilizing criteria specific to NC State’s values is vital to avoid defunding a program that should be maintained or invested in. For example, Dr. Davis’s hops research, could appear superfluous and not worthy of being maintained or receiving further investment. However, the program aligns with NCSU’s criteria one, “history, development and expectations of the program”, because it supports the institution’s historical aims of research and innovation in agriculture to support North Carolina’s economy (Dickeson, 2010, p. 66). It also aligns with criteria seven, “revenue and other resources generated by the program” through fostering collaboration with Sierra Nevada Brewing Company (Dickeson, 2010, p. 66). If the hops flowers are well suited for brewing, Dr. Davis will likely receive revenue from the beer sales to continue her research, and the university will be responsible for contributing meaningfully to a local agricultural challenge. Regarding criteria 6, the

hops research initiative is currently small in size and scope. If proven to be productive, Dr. Davis anticipates expanding the size and scope of the program (Obermiller, personal communication, February 26, 2021). This is just one example of the criteria a program must satisfy to remain a priority to NCSU.

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