Return on Investment for Tribal Colleges and Universities:

A synthesis of the literature and an exploration on its institutional value to Tribal Colleges and Universities.

Prepared for the American Indian College Fund

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June 19, 2016

Introduction and Overview

The term Return on Investment (ROI) has its origins in corporate America. It was first created in the 1930s by F. Donaldson Brown who worked at DuPont and created it as a financial measure used by Alfred P Sloan to make General Motors manageable. ROI is essentially a flow chart that calculates business performance, taking into account not only whether the company made a profit but whether that profit was good enough relative to the assets it took to generate it (Sloan, 1964). The roots of ROI in Higher Education can be traced to the work of Jacob Mincer who argued that education increases earning through its contribution to knowledge and skills that increase workers' productivity in the labor market. He quantified this effect with a logarithmic formula for calculating the value of the human capitol accrued through obtaining a college education and its earning power in the larger economic marketplace (Watchel, 1975, Lemieux, 2003). Mincer used Ordinary Least Squares regression models to create a "standard" equation that empirically estimated the return on schooling. For more than 30 years Mincer's basic formula has been largely treated as the accepted measurement for ROI in Higher Education. It states that the earning of Y person at X time can be written as the sum of the initial earnings and sum of returns to all previous human capitol investments. In other words, what a person can earn in the marketplace when compared against all the money spent on their education (tuition, fees, books, room and board, debt incurred, minus scholarships, grants and other financial aid) can be use to calculate an estimate of the return on investment in a degree.

Mincer's formula did not take into account the non-pecuniary benefits of a college education, and competing explanations offer a positive association between education and earning to educational selectivity; that is, some individuals benefit more from higher education than do others (Neal & Rosen, 2000, Oreopoulos, 2013). With greater statistical tools at their disposal economists have devised more sophisticated ways of calculation since Mincer published his work, and there have been advances in understanding the variances within the types of human capitol (e.g. family background and personal demographics, work experience) a person can acquire. Still, the overall cost of schooling subtracted from expected earning potential in the marketplace is the basic foundation for what is meant by a ROI in Higher Education.

This paper is divided into four sections. The first provides a summary of the literature addressing the conventional ways in which individuals and institutions look at ROI. The second summarizes the small field of research that has expressly looked at what ROI means in the cultural contexts of Tribal Colleges and Universities (TCU). The third section addresses seven research questions that the American Indian College Fund posed that have to do with TCUs conducting their own ROIs. Those questions are:

1) What does a ROI consist of for TCUs?

2) What kind of data is needed to be collected to conduct a ROI?

3) What must a TCU do in order to conduct a ROI?

4) From an institutional perspective, who is responsible for doing a ROI?

5) What types of collaboration (and with whom) must occur for a TCU to conduct a successful ROI?

6) What are the costs involved with conducting a ROI for an institution?

7) What is the benefit of doing an institutional ROI?

The final section offers some speculative analysis on the costs to conduct an institutional RO as well as provides some examples of how to market the results. The section also looks at what kinds of collaborations have occurred between schools and external partners such as State Departments of Labor and private foundations.

Section 1—A Summary of the literature on the conventional view of Return on Investment

Introduction

When it comes to the advantage of obtaining a college degree, the evidence and overall consensus is overwhelming. In numerous studies in the U.S. and internationally, social science research demonstrates that in the labor market college graduates attain higher earnings than do high school graduates. Individuals, irrespective of their gender (Bobbitt-Zeher, 2007, Mare, 1995), ethnicity (Gasman et al, 2016), family income, pre-college knowledge and/or skill sets (Belley & Lochner, 2007) will earn a significantly higher income over their lifetime with a college degree than without one (Carnevale, Rose & Cheah, 2007, Baum, Ma & Payea, 2013). Additionally, there is accompanying research identifying that beyond the economic benefits, degree holders also enjoy social advantages from their time in college over their high school graduate peers in terms of their life choices including personal health, marriage and family, civic engagement. (Ross, & Mirowsky, 1999, Lange & Tobel, 2006, Oreopoulos & Salvanes, 2011). In both sociology and economics the widely held view is a positive correlation between schooling and income. Critical analyses are also quick to point out that the documented relationship between the two is not automatically a causal one, and some portion of school-to-income relationship may be spurious (Card, 1995, 2000).

Education Pays (2013)—The College Board

This report outlines the benefits of Higher Education for individuals and society and documents differences in the earnings and employment patterns of U.S. adults with different levels of education. It also compares health-related behaviors, reliance on public assistance programs, civic participation, and indicators of the well-being of the next generation. Financial benefits are easier to document than non-pecuniary benefits, but the latter may be as important to students themselves, as well as to thesociety in which they participate. The goal of the College Board and this report is to call attention to ways in which both individuals and society as a whole profit from increased levels of education. The report focuses on outcomes correlated with levels of educational attainment. Like most research on ROI it cautions about attributing all of the differences observed to causation. However, reliable statistical analyses support the significant role of postsecondary education in generating the benefits reported. It is not clear who is the audience for this report but by its emphasis on numerous charts and tables calculating median comparative data, it seems targeted for academics and policy makers. A subsequent ancillary report published later the same year entitled *How College Shapes Lives: Understanding the Issues* (Baum Kurose, & Ma, 2013), seems more accessible to a larger audience, perhaps including students and their families.

College Scorecard (2013)-U.S. Department of Education

In 2013, in a response to the rising costs of a college education, the Obama administration directed the Department of Education to work with college and university data bases to compile a scorecard that would serve as a tool for consumers—families and students—to assess the costs and benefits from a college education and compare individual schools with one another. After some refinement, the current College Scorecard presented user-friendly information comparing individual schools with national averages. That included such topics as average annual cost, graduation rates, salary after attending, financial and debt, student body composition, SAT/ACT scores and types of academic programs offered.

One criticism was that the authors did little to inform consumers that, for example, the marketplace is a fluid entity and estimates of earnings are simply their best statistical guesses and are subject to change. There was also nothing in the College Scorecard to inform consumers concerning the state of curriculum and instruction at a particular school. For example, who teaches the courses? Is it primarily tenured faculty, adjuncts or graduate assistants? What is the average class size for each of the four years of undergraduate education? What is the distribution of instructional techniques (i.e. lecture hall, seminar, labs, experiential)? Such data would be useful to students and families assessing the 'goodness of fit' between a college and the

potential individual student.

Anne Grob (2009) observed that the College Scorecard is an initiative that, like the shrinking investment by the states, pushes education away from being a public good and towards simply a private one. When employers are unimpressed with the caliber of graduates it further reinforces doubts about the ROI in higher education. The Scorecard also makes no mention of the affects and outcomes that are not monetized but result from a college education, revealing their value over time (acquiring social/cultural capital, civic engagement and critical literacies). It also does not offer judgments concerning the superiority of one school over another but provides an individual with a package of data with which to make informed decisions around college choices. It should be noted that the findings in these scorecards are painted in broad brushstrokes and should not be treated as the definitive word.

The Economics of Higher Education- A Report of the Treasury with the Department of Education (2012)

This report discussed the state of higher education, provided a brief summary of the job market and a more in-depth look at the system of financial aid. Their findings include: (a) economic returns from higher education remain high and provide a pathway for individual mobility, (b) for-profit schools are the fast growing sector but public universities remain where the largest population of American college attendance. Tuition at all school has increased more than 50% in the past two decades, (c) states have dramatically reduced their support for higher education leaving more of the cost to students, their families and the federal government, (d) Federal Pell Grants and the American Opportunity Tax Credit has helped to offset some of the increases in tuition and decreases in support elsewhere, (e) enrollment is up 81% since the late 1980s, (f) substantial evidence exists that education raises earnings. Additionally, more educated individuals are less likely to be unemployed, will have better health benefits and other non-wage compensations, and (g) higher education remains a tool for intergenerational mobility. Children born in the bottom quintile have a 45% chance of remaining there as adults. With a college degree these same children will have less than a 20% chance of staying in the bottom quintile and a roughly equal chance of ending up in any of the higher income quintiles (Issac, Sawhill & Haskins, 2011)

Making College Worth It: A Review of Research on the Returns to Higher Education (2013)-Phillip Oreopoulos and Uros Petronijevic

Among the most comprehensive review of research on returns on investment to higher education comes from the work of Canadian Economists Philip Oreopoulos and Uros Petronijevic (2103). A number of the points from their paper for the National Bureau of Economic Research merit some elaborated attention.

As others have found, Oreopoulos and Petronijevic conclude that, despite tremendous heterogeneity across college students, the research shows that investment in education pays off for both the average and the marginal student, and that over the past three decades the earnings for persons with a college degree have risen substantially. Mean lifetime earning for bachelor's degree holders are higher in fields such as STEM-related and lower for those in health support, education and personal services. Changes in technology have been driving what constitutes marketable skills for several decades and recently the demand has outpaced the supply coming out of colleges. Employers have increased wages to compete for the smaller pool of skilled graduates that in turn has caused a rise in overall college earnings. Irrespective of professions, however, graduates across all fields continue to out-earn those with only a high school education.

Signaling

One interesting point they raise has to do with the concept of signaling. The theory behind signaling is associated with the question of whether a college education improves an individual's skills or simply signals the presence of their pre-existing skills. They cite extensive research published in *Academically Adrift* (Arum & Roska, 2010). According to the theory, students do not actually develop new skills as they matriculate but rather use their college degree to signal an innate ability to the labor market. If there is little or no skill development throughout college, and if skill-biased technological change is driving the rise in college earnings, then pushing students into college who do not already possess substantial abstract thinking skills will not necessarily lead to the aforementioned returns on investment (Oreopoulos & Petronijevic, 2013). The concept of signaling complicates the question of how beneficial is the national campaign to get every adult to earn a college degree as well as the relationship between the skills learned in college with those demanded in the workplace.

Non-pecuniary benefits

Much has been written about the benefits students accrue from their college experience that do not automatically or easily translate into the standard ROI formula. It is also challenging to isolate the effects of schooling alone on individuals. Family background , persistence, even genetic may all play a role in the success a student has in school (Black, Devereaux & Salvanes, 2005). A second challenge is that higher education leads to higher income and those individuals tend to enjoy better overall health, are less likely to have a teenage birth, suffer mental ailments, or have a child held back in school (Oreopoulus & Salvanes, 2011), While all these benefits are harder to measure than economic returns, they nonetheless speak to the wider impact and benefits that schooling can have on a person's overall growth and development.

College Completion

At every percentile, the earning of workers who have completed only some of college is only marginally higher than those workers with just a high school diploma. This suggests that there may be significant benefits to completing college. Bound and Turner (2011) found that between 1970 and 1999 college enrollment rates for students aged 23 who were pursuing undergraduate degrees rose substantially but completion rates fell by 25 percent. The completion rates for older groups held fairly stable suggesting that the additional time it took to graduate increased. One possible explanation was that students who are unable to borrow or who can only borrow a minimal amount and may be forced to temporarily delay their college education while they return to the workforce to earn more money and thereby extending the time it takes to graduate. Another explanation is public colleges and universities are providing fewer resources per student that does not offset tuition increases.

Student Debt

It is impossible to discuss return on investment without taking on the role that student debt plays in the equation. Average in-state tuition for a four-year institution has more than doubled between 1991 and 2013 from $3,350 to $8,660 while average out-of-state tuition increased 45% from $11,000 in 2000 to $16,000 in 2011 (College Board, 2015). Estimates that appear in the popular press have the totals of student debt reaching over a trillion dollars (Denhardt, 2013). Average estimates of individual student debt vary from a low end of $8,000 to the high end of $26,600 depending on where a student matriculated (Oreopoulos & Petronijevic, 2013, Denhart, 2013). Formulas on returns on investment attempt to calculate the time it will take a student to repay their debt. The shorter the time involved the higher the ROI for all involved (Sparks, 2011).

One unique way of looking at ROI is the student default rates as a measure of college effectiveness (Sparks, 2011). In essence, the relationship between the federal government issuing loans to students (dependent variable) and the ability of students to repay those loans through their placement in productive workplace positions (independent variable).

Understanding Value in Higher Education

While there has been a small body of research that examines the non-pecuniary benefits of education (Oreopoulos & Salvanes, 2011), the vast majority of literature looking at ROI and Higher Education focuses on the financial relationship between a college education and the marketplace. The purpose of education has a long history of contested space. Does it exist to support democratic equality, social efficiency, or promote social mobility? These three competing viewpoints represent those of the citizen, the taxpayer and the consumer and raise the question of whether education can be both a public and a private good (Labaree, 1997). This long-standing debate

has produced a contradictory structure for what obtaining an education means. With dramatic rise of the for-profit and online universities in the past 2 decades along with national tools such as the College Scorecard, the balance seems to have moved further towards seeing college (and all education) as a private good. Labaree argues that this has elevated the pursuit of credentials over the acquisition of knowledge. In a recent survey of 800 vice presidents, deans and directors at two and four-year colleges the majority of respondents said that the most important outcomes for college graduates were having an appreciation for the value of lifelong learning and being intellectually well-rounded; far more than having a job or graduating with little or no debt (Selingo, 2015). Perhaps it comes as no surprise that College leadership would value the life of the mind over the transactional properties of a degree or credential in the economic marketplace. The space between private and public ROI is a logical place to move from the standard formula for calculating a college or university's ROI to a Tribal or more Indigenous formula.

Section 2—The Tribal view of Return on Investment: a synthesis of literature

Overview

Most research and editorials written on the subject of Native Americans and education begin with the same premise. The historical subjugation of American Indians/Alaskans Natives cannot be forgotten or ignored. The multiplying impact from decades of poverty, poor K-12 education and public health services, Reservation and rural isolation, widespread unemployment, substance abuse, and a score of other issues has helped to create a population of American citizens with a unique set of challenges.

Researchers and authors repeatedly outline these facts as the lived-reality and the conceptual scaffolding that frame their studies. The creation of Tribal Colleges and Universities beginning in the 1960s was seen a way in which self-determination within and among tribes could offer educational solutions that were rooted in two worlds (Carney, 1999), preparing their students to enter the workforce and preserving the cultural heritage and values of Indigenous people (Nicholas & LaFrance, 2010, Kirkhart, LaFrance & Nichols, 2011, Rochat, 2015).

Since the creation of the TCU system it has been consistently underfunded at the federal level, seen steadily shrinking (if any) support at the state level, and limited resources from the private sector. The fact that the tribal lands are federally controlled and tribes cannot collect property taxes nor can they be used as loan collateral. This further limits the available financial resources and has left many TCUs in a tenuous position. Native students who chose to enroll and personnel who operate TCUs are faced with enormously challenges and there are critics who say that the TCU system is failure and a waste of money (Butrymowicz, 2014). However,

researchers and writers point to the opposite, and that positive changes are happening in the overall picture (Crazy Bull, 2014, Gasman, 2015). TCUs operate with a dual mission: to educate their students and to address the priorities of American Indian tribes. This includes not only acquiring the knowledge and skills to compete in the economic marketplace and having a grounding the language, history, and cultural practices of the tribe(s) so as to preserve and pass along its heritage and ways of knowing (AIHEC & IHEP, 2001, LaFrance & Nichols, 2010).

The Duo Mission of TCUs

One half of the mission of Tribal Colleges and Universities is to adequately prepare its graduates to provide an education so its students can compete for jobs in the larger marketplace. The other half is to foster a different kind of empowerment by ensuring that students also receive an education rooted in tribal history, language, culture and the values inherent in Indigenous ways of knowing and to develop commitment to their communities (American Indian Higher Education Consortium, 2001, George, 2008, Rainie & Stull, 2015). Beyond pedagogy and instructional practices, TCUs use resources to provide a wide array of support services to their home communities, often that never are factored into assessments of their viability as higher learning institutions. The publication *Building Strong Communities-Tribal Colleges as Engaged Institutions* (AIHEC &IHEP, 2001) provide numerous examples of this kind of community investment and outreach.

There is admittedly a relatively small body of literature that addresses the uniquely tribal and Native American views on what a return on investment looks like and should look like for Tribal Colleges and Universities. With some exceptions they are largely in form of essays and vignettes of how TCUs contribute to their communities and preserve their language and culture (AIHEC & IHEP, 2001, George, 2008). One exception comes from Economic Modeling Specialists International (2015) who drew from a number of databases including the Bureau of Labor Statistics and the U.S. Census to provide a rigorous profile of the economic value of TCUs. They concluded that students invested an estimated $38.8 million in their education and in return will receive a present value of $793 million in earnings over their working lives. This comes out to a 4:1 ratio of return on investment. From a societal perspective, the U.S. as whole invested approximately $572 million in TCUs and stand to benefit from an estimated $2.7 billion from the added national income over students' lives, with an additional savings of almost $200 million from reduced crime, welfare, unemployment and an increase in health and well-being (EMSI, 2015). Clearly the numbers show that investment in TCUs pays off to individuals and the U.S. as whole. Their report adds that the additional emphasis at TCUs in preserving native languages, cultures, traditions, lands and sovereignty cannot be quantified making another case for additional measurement tools and indices of how TCUs fulfill their dual mission (EMSI, 2015).

Lundberg (2014) used a national sample of Native American students who took the National Survey of Student Engagement to examine what experiences might be

empirically linked to student learning. It should be noted that the sample came from predominantly white institutions. What she found was that support for student success, both from individuals' family and peers as well as institutionally contributed most to student learning. Students' sense of engagement, fostered by their relationships, increased their efforts in coursework. Further, her review of literature found that practices such as engaging families with the college experience (Heavy Runner & DeCelles, 2002), strong engagement with their own culture (Okagaki et al, 2009), mentoring programs among Native American students (Shotton, Oosahwe & Cintrón, 2007), and partnering with Native American communities and their leaders (Campbell, 2007) all had positive effects on student success. Taken together, these findings bolster the case for new models of evaluation, emphasizing the tribal culture and relationships as important measures of the overall return on investment. Future research could focus on empirical studies on the ways in which the curriculum and school ethos prepares their students to carry on the values and traditions in their new positions as post-graduate members of society.

Rainie and Stull (2015) offer an analytic overview and review of literature that chronicles the history of TCUs' dual mission approach. They are critical of the limitations of available data stating that "while many accrediting bodies have begun to include more culturally appropriate data points (AIHEC, 2010, HLC, 2013), the data still do not resonate with TCU and tribal outcomes (Rainie & Stull, 2015, p.12)." Their interpretation of the kinds of novel methods and measurement that would align with tribal priorities focus on how the educational services TCUs provide compliment and support the needs of the local economy development, government, and cultural needs; a balance of economic and human development. These will understandably vary across TCUs and their geographic locations and pedagogical emphases. But an underlying theme appears to be how a tribe is benefitted materially and culturally from the education of its TCU students. This put the focus of ROI at the institutional level and is less concerned with students at the center of the analysis.

Rainie and Stull (2015) cited three reports on ROI that principally used the mainstream definitions, but agreed that TCUs also needed tools and measurements that would capture their dual mission. The 2000 AIHEC report focused on economic growth on reservations and the connection between the academic programs and what local employers and industries needed by way of trained workers. The 2007 report from IHEP—*The Path of Many Journeys: The Benefits of Higher Education for Native People and Communities*—centered on the persistent problems TCUs experience of being under-resourced. It did not offer a new model for assessing ROI but rather made a strong case for increased funding at all levels and from all stakeholders as well as renewed education and educational outreach by TCUs. The third report was an unpublished Masters' thesis (Janacek Hartman, 2007) that elicited ideas from stakeholders at United Tribes Technical College and laid out a conceptual map. It focused on the work TCUs did at the program level to transmit culturally congruent curriculum and situate Native ways of knowing within a

contemporary landscape. In all three reports the authors recognized the problems that access to limited data presented. This appears to be a persistent theme across much research with TCUs. Rainie and Stull concur and state that in terms of ROI, the reason that so little has been published is, in part, because data is so limited and what does exist is of poor quality. That makes cross-site comparisons not possible as well as not being well aligned with tribal and TCU conceptions and TCU outcomes (Rainie & Stull, 2015). These are serious considerations to address before deciding to invest in undertaking an institutional ROI.

The majority of the research literature identifies categories associated with nation and tribally-based values but they offer little details in the way of linkages to curricula that are designed to develop and substantiate those values. One exception is the work of LaFrance and Nichol (2009). Their *Indigenous Evaluation Framework* lays out a series of strategies to ground evaluation in traditional ways of knowing and core values (AIHEC, 2009). For example, under the category of *Indigenous Knowledge Creation*, they emphasize the importance of context to ground evaluation efforts into the logic and reality of the community as well as the importance of allotting time for continuous reflection to ensure that there is adequate time to learn what an evaluation has to offer. While some might say these are also good lessons from a well-grounded qualitative, developmental, and social justice approaches of research and evaluation in general (Patton, 1987, 1997, Fine, 1994, Maxwell, 1996), they do reflect tribal values TCUs' missions.

Summary

From 2000-2007 there were just three reports issued that took on the question of ROI and how to measure it in ways that reflected the distinctive nature of TCUs and their duo mission and commitments. Other subsequent reports tended to consider only the standard formula for calculating ROI. Problems with data collection, its reliability and validity was a theme that runs through much of the analysis of the literature on TCUs efforts to conduct and use ROIs for their benefits. A second theme addressed the ongoing challenges to secure the necessary funding and resources required, the identifiable personnel who might collect, manage and analyze the data. Implicit in theses reports, but never quite voiced, is the question of how will a TCU generate and sustain the necessary enthusiasm and focus to conduct their own institutional ROI and use the data in pro-active ways that is beneficial to all stakeholders. These seem like critical question to take on in any institutional form of evaluation.

Section 3—Reflection Questions from AICF

The American Indian College Fund posed the following questions associated with TCUs involvement in conducting institutional return on investment studies.

Responses to the questions are born out the research literature. However, all the statements, questions and findings are the author's reflections and opinions. Any and all biases, misinterpretations, or otherwise inaccurate and incomplete assertions are the author's alone and are not a reflection on the AIFC.

From the beginning, a fundamental question that needs to be asked is what exactly is meant by an institutional ROI for Tribal Colleges and Universities? What is the unit of measurement? Is it the value-added that graduates of TCUs will bring to their communities in the way of both monetary and cultural benefits? Is it instead the focus on the school itself and how its actions and policies produce the desired outcomes that substantiate investments made to its ongoing existence and its contribution to its tribe and community? Or perhaps it is both. Most of the standard and Native literature on ROI tends to focus on the student and college experience as inputs and workplace jobs and earnings as outcomes. A simple measure of ROI will only be as good as the underlying assumptions and the data used. It is beyond the scope of this author's purview to answer these questions. Instead, what follows are some reflections for any TCU community to consider as they contemplate what might be involved in conducting their own ROI.

What does a ROI consist of for TCUs?

There are two distinct features of a TCU-generated ROI. One is pecuniary and the other is non-pecuniary. The pecuniary focus provides a fairly standard labor-economic formula to assess the return on investment based upon financial earning power, conveyed from a TCU certificate or a degree. These features have been discussed in detail above but there are several points worth repeating. They include an assessment of the overall cost of a TCU college degree or certificate and the amount of debt a student may incur while earning their credentials. It also may include how much a school invests in its students (i.e. financially and human support services). This figure is then compared to the typical annual salary a graduate can expect to make in various fields measured over several different points in time and/or over a professional lifetime. These are the fundamentals of an economic ROI portrait. Table 1 provides simple schemata for looking at this formula. With an eye towards students staying and contributing to their home communities, it includes a category of the three largest or most likely industry-employers in the area as primary sources for a students' future income.

Table 1.

The Investment					The Return Typical Annual Salary After Graduation		
College	Annual Cost before Financial Aid	Annual Cost after Financial Aid	Average Debt upon Graduation (for students with debt)	Percentage of Students with Debt upon Graduation	YEAR 1	YEAR 5	YEAR 10
Two Year							
Four Year							

Type of Degree	Industry 1	Industry 2	Industry 3	Average Salary Year 1	Average Salary Year 5	Average Salary Year 10
Short-term certificate level (AC, Heating repair, Auto Mechanics)						
Longer-term certificate level (Nurse, medical assistant, general business admin)						
Associate's Degree						
Bachelor's Degree						
Master's Degree						

[Source: Indiana State Commission of Higher Education. www.in.gov/che/3019.htm Retrieved June 8, 2015]

The second and non-pecuniary feature would be an outline of the metrics and instruments that would be used to measure the distinctive tribal-centered and culturally-congruent curricula and collegiate experience to capture how a TCU

graduate profits from their degree program and overall experience(s) at their school. This is in essence a qualitative and a developmental approach to understand the ways in which TCUs impart cultural and linguistic knowledge, incorporate traditional values, and fulfill their missions. Yet another way of constructing a ROI is to use the TCU as the focal point. That would situate their services as the metrics to calculate and be used to assess the ways in which its goods and services contribute to improving the cultural, economic, and overall vitality of the tribe, the community, and its citizens and sovereignty.

In their article, Reframing Evaluation: Indigenous Evaluation Framework, LaFrance and Nichols (2011) offer a number of critical strategies for evaluation that would seem to have crossover importance to dialogues concerning a non-traditional, Indigenous approach to conducting an institutional ROI. One example from their work emphasizes the importance of keeping the concept of self-determination at the forefront of the process.

From an Indigenous perspective, for evaluation to be *true* (italics theirs) and useful—that is, a good evaluation—the evaluator must have an understanding of the self-determination that fuels the goals and aspirations of Indian communities to preserve, restore, and protect their cultures and ways of doing things. Although programs being evaluated might contain activities similar to those in most American schools, there is always a subtext about self- determination in Indian Country that must be heard by evaluators. One participant described the duality that living in two worlds creates for education. On one hand, educational programs must meet state and federal standards, yet many projects do not want to merely duplicate mainstream approaches. These programs also strive to use culture and language reinforce tribal values, and to build "a whole energy in self-determination, of wanting to be something beyond what we are expected to be." Thus, a good evaluation has to sort through the complexities of expectations imposed by funders, as well as those from a self-determining community (LaFrance & Nichols, 2011, pp.11-12)

When it comes to collecting qualitative data it is important to keep in mind that the process can be time consuming, at times ambiguous, expensive, and requires different skills than collecting and analyzing quantitative data. Often it is beyond the budgets of institutions to commit the resources necessary to conduct such an assessment.

What kind of data is needed to be collected to conduct a ROI?

To produce an economic ROI formula, schools should create an itemized cost of the degree, the tuition, fees, books, room & board, and additional expenses. Next, deduct the scholarships, grants, and other monetary supports received (e.g. if a student works while in school). Finally, if a student has incurred any debt during the degree

process that figure is added to arrive at the overall cost. This total is then compared with data from likely businesses and industries that will hire TCU graduates to answer the fiscal question, what is a college degree or certificate worth? Using a model similar to that in Table 1 can be a useful way of mapping these variables out. The National Governors' Association in conjunction with Complete College America

(Retrieved from: http://www.completecollege.org/stateData.html) created ten measures to chart success in higher education.

- Progress Metrics:
    - Enrollment and success in remedial education programs
    - Success in 1st year college courses (English and Math)
    - Credit accumulation
    - Retention rates
    - Course completion
- Outcome Metrics
    - Degree awarded (annual)
    - Graduation rates
    - Transfer rates
    - Time and credits toward degrees

They recommend that this data be disaggregated by academic preparation, income level, age, race and ethnicity.

Another approach is to compare similar individuals who graduated and did not graduate to see their income-earning patterns over an agreed upon time (e.g. after years 1, 5 & 10). In any of these data collections there confidentiality and privacy issues associated with acquiring students' college records and post- collegiate income. Recent databases may be helpful tools in collecting this data (See Engle, 2016), Given the potential scope and data sets involved in a ROI, perhaps it makes sense for a sub-sample of TCUs to each conduct a pilot project on a modest scale to get a reliable indication of the time involved as well as the financial and practical steps required to gather, assess, report, and reflect on their findings. (

Because the oral tradition is an integral part of Native American culture and ways of knowing, using qualitative techniques such as gathering stories and producing analytic vignettes from the stories would help illustrate what TCUs mean by tribal-centered, culturally-based tools and indicators and students benefit and grow in non-pecuniary ways from attending a TCU. (

It is important to consider that, across the literature on TCUs, and not simply in relation to ROIs, there is a recurrent observation about how problematic data collection is. Whether it is an absence of reliable overall data, the capacity of a given TCU to collect, manage and analyze its data, or the limited time and personnel there are at a TCU to take on the demands of data collection and management, the prevailing opinion is that collecting accurate data is something that has beset TCUs

in many of their research enterprises. If that will be the case when conducting an institutional ROI, it calls into question the viability of such a plan. (

What must a TCU do in order to conduct a ROI?

Conducting an institutional ROI is a collaborative affair, and even more so when situated in the cultural contexts of a TCU. Starting out it seems imperative to identify who are the stakeholders and what roles they will play in shaping the institutional ROI. Irrespective of the roles and responsibilities of individual stakeholders some agreement should be reached on what are the desired outcomes and how the inputs will contribute to those outcomes. Decisions will need to be made about the committing resources to conducting an institutional ROI (i.e. time, money, staffing). As mentioned before, given the scope and details, some dialogues should take place to determine what will be the baseline data. For example, how big a sample of students, and how far back will a TCU look at its graduates and their employment histories? Given the problems with data collection that TCUS have had in the past, perhaps a fundamental question is the degree to which a TCU has access to its own internal data for calculating ROI. Identifying the stakeholder, determining the outcomes and inputs, where the data will come from, and earmarking the time, the personnel and the budget are all necessary ingredients to conduct a ROI.

From an Institutional perspective, who is responsible for doing a ROI?

It seems that an initial step would be to identify who are the best suited school leaders to play a role in recruiting the necessary stakeholders together to discuss and agree upon the outcomes and inputs that make up the ROI. Determining what is that leadership criteria are beyond this researcher's purview. However, once that has been settled, since much of the above data is of a confidential nature, it requires personnel who have access and clearance for such data, who have the trust of alumni and businesses to track down additional data needed as well as the skills to construct the appropriate data base to enter and use the data in creating an institutional ROI. More than likely that it will require than one person to accomplish all these tasks.

What types of collaboration is needed to conduct a ROI?

Inside the TCU there are personnel who should be involved. These might include staff with skills navigating their Student Information System, personnel who track graduates, be that an alumni office or elsewhere, professional research staff that might be charged with the overall responsibility for data collection and analysis, as well as someone with marketing skills who can communicate the value of an institutional ROI.

Outside of the school, there might be members of the community who have unique and particular insights into how the TCU and its graduates contribute to the local economy, the culture, and other quality of life variables. Once the TCU has determined who are their necessary stakeholders, gotten clear on the outcomes and inputs for a ROI, some relationship building and maintaining seems like another important variable to the success of the venture. In other words, who will artfully engage the collaborators to ensure that the work gets done. Additionally, grant agencies, government officials, and other outside groups with some investment in the products of their investments might be included in the overall picture. If this is conceived as a pilot project with several TCUs, then including persons who will communicate across and between the participating schools.

What are the costs associated with conducting an institutional ROI?

As mentioned above, cost depends upon the scope of the ROI. Certainly, it involves financial resources, time, and personnel dedicated to each stage of the work. Thus far, a review of the research has not turned up any examples where the cost of conducting a ROI is sketched out. It might make sense to also think about an institutional ROI in the longer term, that is, what systems can be put into place to maintain the data base and keep a steady flow of information over the course of time, drawing up new ROIs as new tools become relevant and as new needs arise. Building for the future rather than a one-shot proposition brings a different set of costs and commitments. Again, while this might be something to consider, beginning with a modest pilot project could be a more prudent use of available resources.

Like other kinds of institutional research it may also unearth some uncomfortable truths about a given TCU and how stakeholders view what ROI means, where it falls short and where there might be conflict. Therefore, one of the costs is the capacity to live with ambiguity and uncertainty in service to a larger set of goals and outcomes. It may take additional time to marshal the tools necessary to conduct an institutional ROI in a manner that is strongly reliable, valid, and speaks its truth to all the relevant stakeholders. If a persistent problem is with the inability to collect and manage the data necessary to accurately calculate ROI, both from a standard economic formula and from an indigenous-defined set of criteria, what is the estimated cost of putting a data collection protocol and system in place to do this needed work? Where will the money come from? Who will need to be trained in order to take advantage of these new evaluative tools?

What are the benefits from doing an Institutional ROI?

When considering the benefits of doing an institutional ROI it seems helpful to think of it as an organic learning opportunity emerging out of the desired outcomes that feel worthy to and will animate a TCU and its stakeholders' time and energy. In that

spirit, LaFrance and Nichols (2011) use this quote from one of their focus groups as characteristic of one Indigenous approach to evaluation; a 'sense of becoming.' The person from their focus group described it thusly

> [In our efforts, we are] about becoming, we are always becoming... And so they talk about people becoming—not of its finality but of its becoming because we are people who are constantly growing and changing and learning, even as we get older and older, we're still learning, and like a lot of the older [evaluation] models and the measurements, it's so finite, the achievement score, that one place in becoming, which we know is just a measure of that moment. So somehow this becoming.... is [not only] one element within a [single] context but a larger picture... living in peace and in that sense of place.... I think that most evaluation systems have a hard time capturing that (LaFrance & Nichols, 2011, pp21-22].

Stakeholders such as foundations and other supporters who are from outside of native culture may struggle with this more process-oriented approach to measuring the results. Some benefits may reveal themselves in the planning process, others over the course of doing the ROI, while still others will take time and reflection to derive their lasting benefit. However, the more mission-driven and supported the ROI can be (and the more authentic it feels to participants), the greater the likelihood that significant learning will occur from an institutional approach to conducting a ROI. Taking this road will require patience, the capacity to live with some uncertainty, and the willingness to try to measure the value from communal and non-pecuniary results of a TCU education. Such is the nature of a more qualitative approach to looking at what a college education is worth, and to pioneering what a culturally- responsive model will look like in action.

Section 4—Additional AIFC Questions

The final section offers some speculative analysis on the costs to conduct an institutional ROI as well as provides some examples of how to market the results. The section also looks at what kinds of collaborations have occurred between schools and external partners such as State Departments of Labor and private foundations.

A review of the literature on ROI and Higher Education did not uncover any examples of schools or their partners spelling out the costs of conducting an institutional ROI. Considering that most, if not all, traditional schools appear only interested in the pecuniary measurements on their investments, the costs of doing such a ROI are linked to the availability of financial and demographic data and the staff it may take to gather and calculate their findings. In terms of the question of marketing their findings, the national databases such as College Scorecard, PayScale, College Measures, and College Reality Check are all accessible to would-be consumers, be they students, families, or even potential employers. Again, the literature on ROI does not have examples of individual schools using their marketing resources to sell potential students on their school's ROI. While such appeals may exist inside college and university advising and admissions

departments, that data was not found. Any calculation on this author's part of the projected cost of producing an institutional ROI would be an isolated guess and probably not all that helpful in the larger scheme of things.

Lastly, in terms of collaborations between schools and external partners such as Labor Departments, Foundations, or other outside stakeholders, it should be noted that there is no single source or data system tracking postsecondary data. Instead there is a patchwork of different systems, owned and operated by different entities, and who use different data definitions and are governed by different statutes and regulations (Cubarrubia & Perry, 2016). Tribal Colleges and Universities do not show up in any of these national databases. It is highly unlikely that some single, integrated system is going to be forthcoming in the near future as each of those entities was built for its own fulfilling purposes. With those realities, TCUs who are interested in investing in their own traditional and Indigenous formula of calculating and marketing their unique ROI could use this opportunity to conceptualize their own ecosystem that produces flexible models, field-tested and committed to collecting and analyzing the most useful data that will communicate the extrinsic and intrinsic worth of their educational credentials and experiences.

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