

## **Theoretical model for applying agency and resource dependency to public higher education**

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### **ABSTRACT**

The purpose of this study was to provide a theoretical model for public higher education. Significant financial challenges are affecting the future of the public higher education sector of the United States. With a decline in enrollments in conjunction with minimal increases in state funding sources, many have speculated what the future holds for these institutions. The agency theory and resource dependency theories can be utilized to research these topics. Agency theory describes a relationship between a principal, in this case the individual states across the U.S., and an agent, the public higher educational institutions, whereby the agent performs duties on the principal's behalf. The institutions provide educational opportunities for the citizens of the respective state for appropriate funding allocations from the state's budget. The resource dependency theory describes the behavioral implications on organizational processes of being dependent on a limited number of resources. For public higher education systems, they are dependent upon two major sources of income: state appropriations and student tuition. The balance between these income sources can impact the principal/agent relationship between the state and their respective higher education institutions.

**Keywords:** Agency, Resource Dependency, Public Higher Education

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## INTRODUCTION

Over the past ten years, public higher education institutions across the United States have struggled to balance their budgets (Klein, 2015). These institutions rely on two major sources of income, tuition revenue and state funding (in the form of state appropriations), to continue their operations. One major contributing factor is the decrease in high school graduates in recent years which has led to a decline in tuition revenue. The December 2016 Western Interstate Commission for Higher Education (WICHE) reported the number of U.S. high school graduates will remain static or decrease through 2023 from the record high of 3.47 million high school graduates in 2013 (Bransberger & Michelau, 2016). The other main factor for the budget crisis in public higher education is the considerable reduction in state funding over the past few decades. In comparison, state funding per student for public higher education was greater in 1980 than it is today (Klein). The percentage of state appropriations compared to total institutional revenue decreased from 32% in 2004 to 23% in 2013 (Sav, 2016).

State public higher education systems in the United States are governed by the states in which they operate, representing a principal and agent relationship. The resource dependency theory describes the behavioral decisions and implications resulting from an organization's dependency on a few finite resources. Organizational success and survival are determined by an institution's ability to acquire and maintain these resources (Keeney, 2018). The conflicting principals behind the agency theory and resource dependency theory for public higher education institutions could impact the administration's strategic framework for providing low-cost, high quality education. Significant factors that could be affected include recruitment, tuition rates, allocation of resources and cost reduction. The theoretical framework proposed in the research could explain the difficulty public higher education systems face when acting as agent for the state while becoming more dependent on tuition revenue as a result of diminishing state appropriations.

## FRAMEWORK

Public higher education institutions across the United States are bound by agency theory and resource dependency theory. Each of these theories contribute to management's overall strategic decision-making. With limited financial resources available, universities are seeking alternative funding sources to supplement dwindling state appropriations. The viability of U.S. public higher education institutions depends on their ability to generate enough revenue to cover expenses. With decreasing dependence on state appropriations, the agency theory which exists between the state and the public higher education institutions begins to diminish.

### Agency Theory

The purpose of higher education in the United States is to empower its citizens with the knowledge and skills to create products and services to better themselves and society as a whole (Powell & Rey, 2015). States partially fund public higher education intuitions to provide their citizens with the opportunity to receive a quality education at lower tuition rates, thus creating a principal and agent relationship between each state and its respective institutions. Agency theory describes the contractual agreement between a principal and agent whereby agents carry out duties on behalf of the principal (Bendickson et al., 2016). Public higher education institutions

work on behalf of the states, delivering a quality education to each of its citizens below the cost offered by private colleges and universities. However, as state appropriations decline, public institutions begin to act less as agents for the state and focus on the interests of the institutions. As the theoretical framework in the research suggests, applying agency theory to public higher education infers that conflicts of interests may arise because the interests of the institutions may not align with its state's interests (Bryant & Davis, 2012) of providing low-cost, high quality education to its citizens.

### **Resource Dependency Theory**

“The resource dependency theory describes behavioral implications throughout organizational processes resulting from scarce resources” (Bennett, 2018). Two major sources of income which public higher education institutions depend on for sustainability are state appropriations and student tuition revenue. The dependency on both the state and students as key stakeholders can impact the strategic plans of the institutions (Lämsiluoto, Järvenpää, & Krumwiede, 2013). Powell and Rey (2015) described three key areas of resource dependency theory with respect to public higher education: “(1) environmental effects on organizations; (2) organizational efforts to manage environmental constraints; and (3) how environmental constraint affects internal organizational dynamics” (p.94). The proposed theoretical framework in Figure 1 (Appendix) describes the impact of the balance between the two major resource dependencies of public higher education, tuition revenue and state appropriations, which can affect the principal and agent relationship between the state and their respective institutions.

### **Implications**

The principal/agency relationship between the state and its respective systems of higher education are built on two major themes of low cost and quality education for students. The application of both agency theory and resource dependency theory to public higher education can conjecture the implications of strategic decisions in the following areas: recruitment, tuition rates, allocation of resources and cost reduction. Agency theory and resource dependency theory can be used to explain the strategic planning decisions of administrators at public colleges and universities. These institutions have the difficult task of succumbing to the interests of all its stakeholders, including its respective state, the students it serves and the faculty and staff it employs, while ensuring its own sustainability. Higher education institutions have experienced external forces of fierce competition and lower student population. In addition, public higher education institutions are affected by “increased accountability and assessment measures, declining state budgets, and diminutive endowments” (Powell & Rey, 2015, p. 94).

### ***Low-cost.***

The purpose of public higher education is to educate citizens of the respective states to further their careers and in turn provide economic benefits to the state (Calhoun & Kamerschen, 2010). By developing and retaining a higher earning workforce of local residents, the state anticipates a return on their investment in education through the generation of higher tax revenue (Calhoun & Kamerschen). The state invests in public colleges and universities with the intention of keeping tuition costs affordable to its citizens. However, contracting state funding has led

public institutions to begin to recruit more out-of-state students and increase tuition costs. This contradicts the agency theory between the state and public colleges and universities.

Recruitment. In-state students typically pay reduced tuition costs at state public institutions as compared with rates for their counterparts from out-of-state. The state sets lower in-state tuition rates based on the assumption the students will continue to reside in their home state upon graduation and generate future income tax revenue for their respective state (Calhoun & Kamerschen). Decline in state funding has forced public colleges and universities to find other ways to stabilize revenue. Boosting out-of-state enrollment is one alternative these institutions have increased net tuition revenue because nonresident students pay higher tuition rates. “At public universities defined as “doctoral/research extensive” by the 2000 Carnegie Classification, mean nonresident freshman enrollment increased from 747 in 2000 – 2001 to 1,169 in 2012 – 2013 (a 56% increase), compared to an increase of 2,981 to 3,346 for resident freshman (a 12% increase) (authors' calculations based on IPEDS)” (Jaquette & Curs, 2015, p. 536). Decreases in state appropriations are pressuring public higher education institutions to increase tuition revenue by expanding nonresident enrollment which contradicts the objective of the state (Jaquette & Curs) and weakens the principal/agency relationship.

Tuition rates. Public colleges and universities are operating in a volatile market where increasing tuition rates may be inevitable because of reductions in state funding. This contradicts the state’s intention to provide affordable, low cost education and further deteriorates the agency theory which exists between the state and the public higher education institutions. Public higher education institutions have begun to offset decline in state appropriations by increasing tuition costs to the students (Weerts, 2014). Net tuition as a percentage of total revenue has increased from 23.3% in 1985 to 40.3% in 2010 (Altundemir, 2012). In fiscal year 2011, the state system of Alabama increased tuition rates (varying by institution) ranging from 8% to 23%, Florida state institutions raised tuition by 15% and South Dakota increased university tuition by 4.6% (Altundemir). In fiscal year 2012, Missouri’s state university system increased tuition rates ranging from 4.7% to 6.6% and Tennessee’s state system increased tuition by 7% at universities and 5% at community colleges (Altundemir). These are only a few examples of increases in tuition costs at public higher education institutions over the past several years. These tuition increases defy the state’s purpose of providing low cost education implied in the agency theory between the state and the institutions.

### *Quality*

By providing state funding to public higher education institutions, an implied contract to provide quality education on behalf of the state to its citizens exists. Quality in higher education can be defined and assessed in many ways. The number of programs offered to students, student-to-faculty ratio, faculty qualifications and research impact, student activities offered and career placement are a few examples of measuring an institution’s quality. Investing outside of these areas or eliminating resources spent on maintaining high quality opposes the agency relationship intended by the allocation of state appropriations.

Allocation of resources. Colleges and universities operate in a fiercely competitive environment as the high school graduate population declines. In order to attract and retain students, higher education institutions need to employ qualified faculty and offer desirable academic programs and aesthetically pleasing learning environments. This can be challenging given an institution’s limited resources. As state appropriations decline and budget constraints

are prevalent, it can impact the strategic allocation of an institution's limited resources. Less funds may be allocated to educational and assessment programs and more resources are invested in attracting students. Some institutions are gaining a competitive advantage through the addition or modification to existing buildings and improving their overall campus appearance (Roberts & Taylor). Higher education institutions are also investing in campus dining options in order to attract more students. Although these improvements are necessary, most do not directly relate to the quality of the education provided to students, which is the overall goal of the state.

Cost reduction. Constrained resources ultimately lead to cost reductions in any organizations. While businesses can find alternative materials, improve processes and decrease its workforce, it is difficult to apply these cost reduction alternatives to higher education without sacrificing quality. Unfortunately, with limited funding from the state, public higher education systems have been forced to make difficult decisions to reduce overall costs. One area state systems have drastically cut is financial aid. For example, in 2011, Michigan reduced student financial aid by 61% and Minnesota eliminated financial aid grants to approximately 9,400 students (Altundemir, 2012). Another area of cost reduction for public higher education institutions is the elimination of faculty and staff positions which causes bigger class sizes, increased workload for faculty and a reduction in services available to students. In academic year 2011, the University of Idaho imposed furlough days on 2,600 of its employees state-wide (Altundemir) while "the University of Florida eliminated 261 full-time tenure and tenure-track faculty positions" (Mitchell, Palacios, & Leachman, 2014, p.14). In addition, in 2014, the North Carolina State University cut 187 full-time equivalent positions (Mitchell, Palacios, & Leachman). Similar initiatives have been implemented across state systems in order to alleviate the reduction in state appropriations. These cost reductions could lead to lower quality education further weakening the principal/agent relationship.

## CONCLUSIONS

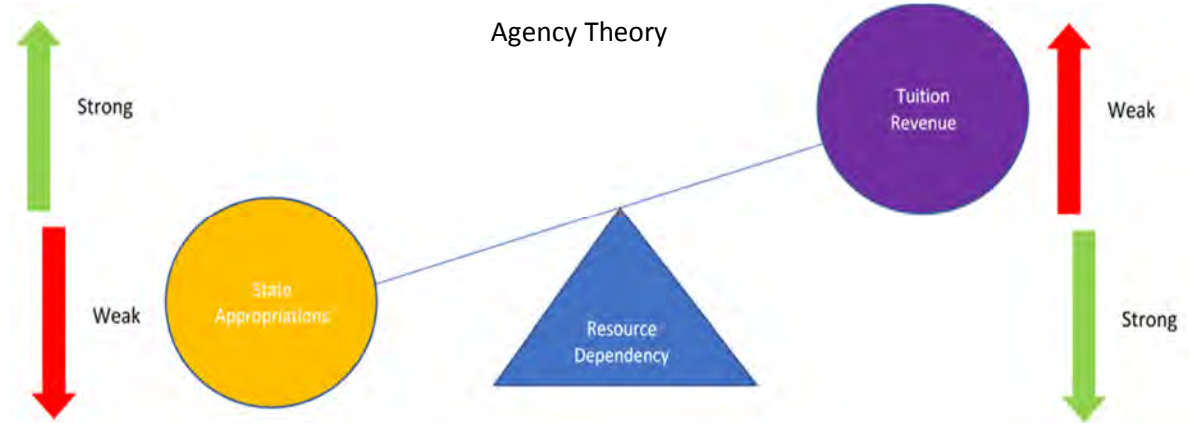
The landscape of higher education is changing due to various reasons. Demographic fluctuations, reduced state appropriations and an extremely competitive environment to attract and retain students have placed significant financial pressure on state public higher education systems. As these systems begin to take on these challenges, the agency relationship with the applicable state begins to erode. Individual institutions that make up the state systems must begin to develop alternative strategies to identify additional revenue streams while also considering reductions in expenses. These strategic changes may significantly impact the value of the education being provided. This potential decline in the educational value begins to constrain the agency relationship with the state.

The era of state public higher education systems relying significantly on resources and oversight from their applicable states is transitioning. This once strong agency relationship has started to dissolve as the reduction in state appropriations weakens the resource dependency correlation. Future higher education administrators and state government officials will be called upon to address these changing relationships in order to maintain the value for students seeking an affordable education from a state institution.

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**APPENDIX**



*Figure 1: Agency theory confliction with resource dependency in public higher education*

