

## APPLYING THE ANALYTIC HIERARCHY PROCESS IN FACULTY SEARCH

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### ABSTRACT

In this paper, we describe our application of the AHP to fill a tenure-track position. Criteria identified as important to the decision included "Degree, teaching, student engagement, research, service, experience, and diversity." Several sub-criteria were associated with each main criteria. Not surprisingly, though main selection criteria are common across higher education institutions, our institution mainly serves an undergraduate population and the perceptions and judgments of search committee members reflected the higher relative importance of criteria associated with teaching and student development. In the case presented, three finalists for an assistant professor position passed the initial screening and phone interviews and were invited for campus visits. Following the visits, we built our AHP model that included the aforementioned primary criteria as well as associated sub-criteria. After constructing the hierarchy, each search committee member completed pairwise comparisons of the criteria. The results of the model helped prioritize the criteria and recommend a candidate for follow up.

Keywords: AHP, Faculty search, Human Resources

### 1. Introduction

Selecting the most suitable Faculty for a tenure-track position is an important consideration for higher education institutions. Each member of faculty contributes to institution and program success and faculty selection is central to meeting current and future department objectives. As a result, search committees by necessity must put much energy and time into identifying and recruiting the most suitable candidates out of a large pool and choosing the best one.

The nature of faculty search and selection requires consideration of multiple criteria. This suggests it is highly suitable for the application of Analytical Hierarchy Process (AHP). The AHP is a multi-criteria technique that assesses the relative importance of attributes used in selection processes. It facilitates decision making by organizing participant perceptions, feelings, and judgements into a framework that prioritizes criteria that influence decisions. It also supports the comparison of selection alternatives.

We present a case employing AHP in the evaluation of candidates to fill a tenure track faculty position in Supply Chain Management at a regional public university located in the Pacific Northwest. The final model incorporates three levels of hierarchy across seven dimensions of assessment.

## **2. Literature Review**

The role of the analytic hierarchy process (AHP) for planning and decision making in higher education gained attention three decades ago. Saaty & Ramanujam (1983) proposed the methodology and presented a hypothetical demonstration using AHP to evaluate tenure and promotion decisions. Liberatore and Nydic (1997) highlighted a range of potential applications of AHP in higher education group decision making before illustrating an application to rank papers submitted for a faculty research award. In their review they referenced prior articles where AHP was discussed or employed for decision making in areas of faculty evaluation, strategic planning, budgeting and curriculum redesign.

Grandzol (2005) presented a case using AHP in the selection of faculty to fill a tenure-track position in quantitative methods/operations management. Beyond the process defined by human resources in faculty recruiting, Grandzol outlined nine-steps guiding the recruiting and selection effort. He described the each step leading to the selection of candidates for further review in the hiring. Key benefits from the process included a shift in recruiting from questions of "what to do" toward guidance of "how to do." In addition, the process was lauded for its conformance to social equity goals; helped build cohesiveness among committee members; was easy to understand and provided grounding for review and analysis.

Abuizam and Lucas (2013) described processes and analyses followed when applying AHP in the selection of a tenure track faculty position. Whereas prior cases using AHP sought to winnow initial candidate pools to a select few for detailed interviews and campus visits, Abuizam and Lucas (2013) implemented a second-round process to evaluate candidates selected for campus visits based on oral presentations, student evaluations and search committee evaluations.

## **3. Hypotheses/Objectives**

The objective of the paper is to propose a decision-making model to prioritize the criteria used in the selection of faculty to fill a tenure-track position.

## **4. Research Design/Methodology**

We employed the Analytic Hierarchy Process (AHP) in the evaluation of candidates to fill a tenure track faculty position in Supply Chain Management at a regional public university located in the Pacific Northwest. The AHP is a multi-criteria technique that assesses the relative importance of attributes used in selection processes by using the 1-9 comparison scale. It facilitates decision making by organizing participant perceptions, feelings, and judgments into a framework that prioritizes criteria that influence decisions. It also supports the comparison of selection alternatives.

## **5. Data/Model Analysis**

In the case presented, three finalists for an assistant professor position passed the initial screening and phone interviews and were invited for campus visits. Following the visits, we built our AHP model that included

the primary criteria as well as associated sub-criteria. The primary criteria identified as important to the decision included "Degree, teaching, student engagement, research, service, experience, and diversity." Several sub-criteria were associated with each main criteria. As an example, for *Degree*, we included three sub-criteria: Status, Major, and School. Once we built the hierarchy, each of the 3 members of the Faculty search committee made the pairwise comparisons by using the 1-9 scale. We then aggregated the individual judgements to construct the group choice.

## 6. Limitations

Major limitation of the proposed model is that we used it to prioritize the criteria in selecting the most suitable candidate for a faculty position. We have not compared the final candidates and the decision-making team included only 3 faculty members. The future studies should include a comparison of the final candidates and a sensitivity analysis to see how robust the final outcome would be.

## 7. Conclusions

In this paper, we proposed a comprehensive model to fill a tenure-track position in Supply Chain Management at a regional public university located in the Pacific Northwest. Proposed model enabled us to prioritize the criteria. Not surprisingly, though main selection criteria are common across higher education institutions, our institution mainly serves an undergraduate population and the perceptions and judgments of search committee members reflected the higher relative importance of criteria associated with teaching (% 28.3) and student development (%16.7).

## 8. Key References

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