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# Leading through uncertainty: a four-frame analysis of leadership in academic museums

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## Abstract

**Purpose** – The purpose of this quantitative, non-experimental research study was to measure the prevailing approaches to organizational leadership most frequently used among academic museum directors according to Bolman and Deal's (2021) four-frame model. Academic museum leaders face several substantial challenges today, and this study sought to establish a baseline understanding of what effective leadership looks like among academic museum directors during these increasingly turbulent times. Ultimately, this study measured preferred organizational leadership tendencies, which informed recommendations for professional development, hiring and recruitment and crisis management.

**Design/methodology/approach** – This non-experimental research study evaluated the leadership orientation preferences of academic museum directors using Bolman and Deal's (2021) four-frame model. The application of this validated instrument to the academic museum population via the Association of Academic Museums & Galleries (AAMG) listserv accompanied four research questions. The study utilized descriptive statistics alongside nonparametric statistical tests – including Spearman's rank correlation test, the Mann–Whitney *U* test and the Kruskal–Wallis test – to investigate preferred leadership frame usage among academic museum directors.

**Findings** – Self-assessment by academic museum directors revealed a proficiency in the human resources frame and near proficiency with the structural frame. In contrast, academic museum employees did not rate their leaders proficient in any of Bolman and Deal's (2021) four frames. A statistically significant disparity exists between self and others ratings; in other words, directors rated themselves more proficiently in the four frames than their employees rated them. The study also found that directors at the smallest academic museums self-reported a statistically greater proficiency in the human resources frame compared to their director peers at the largest academic museums.

**Originality/value** – This study utilized Bolman and Deal's (2021) four-frame model, an instrument that has informed numerous research studies within the adjacent field of academic library leadership but is relatively untested within academic museums. Ultimately, this study helped lay the foundation for empirically-grounded recommendations in team management, crisis leadership and professional development for existing and future academic museum leaders – timely research that can help mitigate some of the significant challenges facing the academic museum community today.

**Keywords** Leadership assessment, Leadership competencies, Leadership theory, Leadership measurement

**Paper type** Research article

## Introduction

Today, thousands of campus museums and university collections support the academic life of their communities by providing internships, museum courses, educational programming and critical thinking and observational skills grounded in visual thinking strategies (Glesne, 2012; Simpson, 2023; Yenawine, 2014) and meaning-making (Rounds, 1999; Silverman, 1995). Regardless of the benefits conveyed by campus museums, they too are subject to the same pressures facing higher education. Declining enrollments and rising costs force many campus administrations to reduce budgets and staffing (Barr & McClellan, 2018; Bolman & Gallos,

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2011; Gigliotti, 2019). Some administrators even rely upon museum collections as capitalized assets. For instance, Valparaiso University recently sold paintings from the museum to fund new dormitory construction (Aguiar, 2024). In essence, academic museums face a multitude of internal and external threats to their ongoing survival.

Despite their pedagogical value to higher education, academic museum directors continue to face numerous leadership challenges (Durocher, 2024; Jick, 2024; Simpson, 2023). These difficult circumstances test the leadership acumen of academic museum directors as they navigate university bureaucracy, understaffing and complex political negotiations (Eiland, 2019; Simpson, 2023; Wetenhall, 2021). In other words, the embedded nature of museums within the campus hierarchy creates a substantial leadership challenge for museum directors who must navigate the structural, human resource, political and symbolic opportunities, threats and challenges within their organizations (Bolman & Deal, 2021). Despite the internal and external pressures facing campus museums, and the crucial role academic museum directors can potentially play as leadership educators and developers, little research exists regarding the organizational leadership proficiency of these unique higher education positions (Glesne, 2012; Sloan & Swinburne, 1981). This study sought to bolster the scarce academic museum literature base by utilizing quantitative research methodology and, subsequently, bringing clarity to leadership strengths and weaknesses that can help guide higher education and museum professionals alike amidst the many challenges facing the field today.

#### *Problem statement*

According to the American Alliance of Museums (AAM), an estimated 1,914 campus museums operate object-based teaching and learning programs at colleges and universities of all sizes across the USA (K. Johnson, personal communication, January 22, 2025). In much the same way that academic libraries serve the entire campus and surrounding community, academic museums also provide research, internship and interdisciplinary teaching and learning opportunities for their constituents (AAMG, 2025; Glesne, 2012; Simpson, 2023). These two closely interrelated disciplines share much in common, from their service-oriented missions that embrace collections and the dissemination of knowledge, to outreach services and programs that serve the entire campus and community (Carlson, 2023; Derstine, Hudson-Ward, Edgar, & Snyder, 2019; Deupi & Eckman, 2016; Hudson-Ward, Widholm, & Walter, 2023; IMLS, 2009; Johnson & Sobczak, 2021; Kennedy, 2020).

Additionally, the volatile, uncertain, complex and ambiguous (VUCA) operating environment of higher education (Gigliotti, 2019; LeBlanc, 2018) further compounds the stressors of leading an academic museum, as declining enrollments, operational challenges and a flurry of federal executive orders threatens to further destabilize higher education, the Institute of Museum & Library Services (IMLS) and the academic museum's parent organization (Brown, 2024; Cantwell, 2025; Jones, 2024; Limbong, 2025; Lu, 2025a, b; Thelin, 2019). Moreover, a forthcoming wave of academic museum director retirements by 2030 (US Census Bureau, 2019) will add additional strain to a field already suffering from fatigue, burnout and employment turnover (Eiland, 2019; Merritt, 2021; Simpson, 2023; Thistle, 2012; Wetenhall, 2021). Therefore, establishing a baseline understanding of what effective leadership looks like among academic museum directors continues to persist during these increasingly turbulent times (AAMG, 2023; Bolman & Gallos, 2011; Eiland, 2019; Wetenhall, 2021). Benchmarking academic museum leadership acumen today can help leaders prepare for uncertainty tomorrow, while emphasizing implications for increased attention to leadership education for curricular offerings in museums and other such related areas, including galleries, libraries and archives.

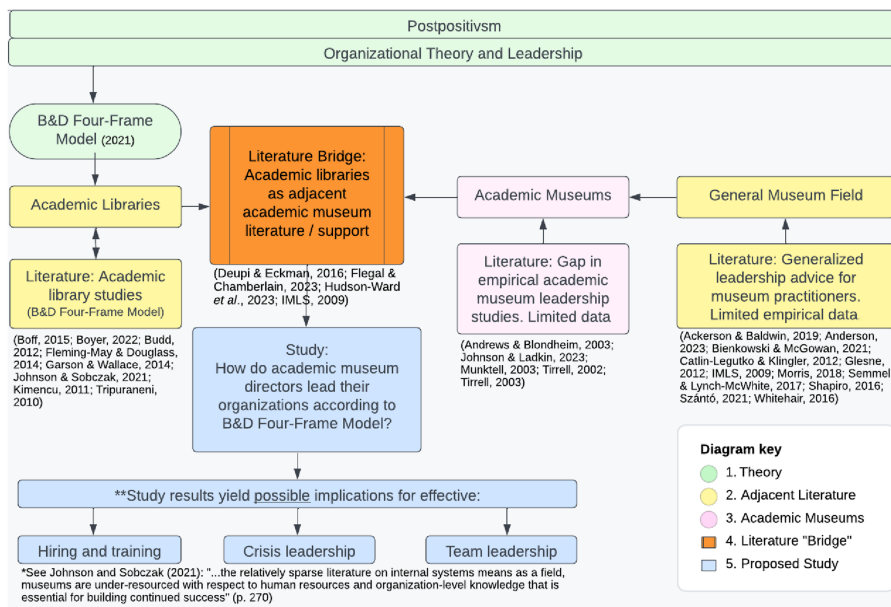
Given the lack of empirical research pertaining to campus museums, campus libraries therefore serve as the single closest proxy in terms of mission, staffing structure, administrative concerns and collecting practices (Ackerson & Drummond, 2017; Botticelli,

Mahard, & Cloonan, 2019; Carlson, 2023; Derstine *et al.*, 2019; Deupi & Eckman, 2016; Dewey, 2017; Eden & Fagan, 2014; Flegal & Chamberlain, 2023; Hernon, Powell, & Young, 2003; Hudson-Ward *et al.*, 2023; IMLS, 2009; Johnson & Sobczak, 2021; Kennedy, 2020; Yarrow, Clubb, & Draper, 2008). The academic library field continues to demonstrate sustained interest in leadership research, with over 25 empirical studies conducted since 2000 (e.g. Ashiq, Rehman, Safdar, & Ali, 2021; Fagan, 2012; Kumaran, 2023).

One area of study among academic librarians is the application of Bolman and Deal's (2021) four frames – structural, human resources, political and symbolic – to academic library leadership (Boff, 2015; Boyer, 2022; Budd, 2012; Fleming-May & Douglass, 2014; Garson & Wallace, 2014; Johnson & Sobczak, 2021; Kimencu, 2011; Tripuraneni, 2010). Based upon a wealth of adjacent empirical data within the closely related domain of academic libraries (Boff, 2015; Boyer, 2022; Johnson & Sobczak, 2021; Tripuraneni, 2010; Yi, 2015), the four-frame model of organizational leadership provides a clear and succinct path forward for understanding leadership within an academic museum context as evidenced by the conceptual framework in Figure 1.

### Purpose of the study

The purpose of this quantitative research study was to measure the prevailing leadership approaches most frequently used among academic museum directors according to Bolman and Deal's (2021) four-frame model. Like previous studies conducted in the adjacent field of academic libraries (Boyer, 2022; Di Gregorio, 2020), measuring preferred organizational leadership tendencies helped guide professional development, hiring and crisis leadership for academic museum leaders.



**Figure 1.** Conceptual Framework for Academic Museum Organizational Leadership Study. *Note.* This figure depicts the relationship between organizational theory, academic museums, adjacent literature sources and implications for an empirical study leveraging Bolman and Deal's (2021) four-frame model. Source: Author's own work

**Research questions**

*Four research questions guided this non-experimental quantitative research study:*

- RQ1. To what degree do academic museum employees perceive Bolman and Deal's four frame model on the leadership orientation instrument (LOI)–Others instrument as it applies to academic museum directors?
- RQ2. To what degree do academic museum directors perceive Bolman and Deal's four frames model on the LOI–Self instrument as it applies to themselves?
- RQ3. Is there a relationship or difference between the latent leadership frame variables from the LOI–Self and LOI–Others instruments?
- RQ4. Do statistically significant differences exist between years of leadership experience, higher education (Carnegie) classification and staff size of museums as they relate to the latent leadership frame variables from the LOI–Self and LOI–Others instruments?

*Significance of the study*

The benefits of benchmarking organizational leadership for academic museum professionals and higher education administrators are many. Perhaps the most significant contribution of this study was the establishment of empirical linkages relevant to leadership education and leadership development. This research makes a meaningful contribution to the field by applying [Bolman and Deal's \(2021\)](#) four-frame model to an under-researched context vis-à-vis academic museums, thereby extending existing work in higher education leadership, while also offering baseline data in an area that previously relied primarily upon anecdotal evidence for leadership knowledge and training.

For academic museum professionals, this data-driven study illuminated areas of leadership strengths and weaknesses among museum directors as evidenced by previous academic library research ([Boff, 2015](#); [Boyer, 2022](#); [Johnson & Sobczak, 2021](#); [Yi, 2015](#)). For example, gaining a richer understanding of existing leadership proficiency provided implications for a leader's crisis response effectiveness ([Bolman & Deal, 2021](#); [Gigliotti, 2019](#); [Jones, 2013](#); [Morgan, 2006](#)). Furthermore, by identifying the leadership proficiencies and deficits perceived by employees, this research provides the foundation for targeted leadership training programs designed to enhance the effectiveness of academic museum directors and their teams as leadership educators and developers.

At the administrative level, greater clarity surrounding organizational leadership within academic museums provided implications for future hiring practices. According to [AAMG's \(2023\)](#) first field-wide survey, approximately 61% of academic museum professionals report directly to an academic dean or provost in the academic affairs office. Results from this study could help inform the creation of more effective hiring committees by deans and provosts and provide better alignment of the strengths and weaknesses of potential candidates with the museum's mission and strategic direction ([Fischer & Roberts, 2018](#); [Lord & Markert, 2017](#)). As a result, more deliberate and data-informed searches might lead to fewer failed searches, reduced turnover and better team performance and outcomes ([Frye, 2017](#); [Vicker & Royer, 2023](#)). Ultimately, this study helped lay the foundation for best practices in professional development, hiring and crisis leadership for existing and future leaders of 21st-century academic museums while also providing broader applicability and lessons learned that could perhaps extend beyond a museum-specific context.

**Review of literature**

This section begins by highlighting relevant literature from the field of organizational theory and [Bolman and Deal's \(2021\)](#) four-frame model of organizational leadership. Next,

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organizational theory informs a survey of organizational leadership, followed by the general structure, challenges and galleries, libraries, archives and museums (GLAMs) that operate within the higher education environment. Within the GLAMs domain, literature from the adjacent field of academic libraries contextualizes parallel work accomplished in this closely related domain to academic museums. This review of literature concludes with a brief overview of the history and purpose of academic museums.

*Theoretical framework: Bolman and Deal's (2021) four-frame model*

This study is guided by Bolman and Deal's (2021) four-frame model, which functions within a singular or multi-frame fashion for navigating organizational challenges (Bolman & Gallos, 2011; Eddy & Kirby, 2020). The model utilizes four overarching perspectives or "frames" to interpret and approach leadership challenges, along with a corresponding metaphor for each frame: structural (the machine), human resource (the family), political (the jungle) and symbolic (the theater). The importance of single frame as well as multi-frame proficiency is crucial for leadership success (Bolman & Deal, 2021; Bolman & Gallos, 2011).

*Structural frame.* Bolman and Deal (2021) liken the structural frame (i.e. the machine) to that of an efficient factory full of specialized cogs. Drawing upon early scientific organizational theorists including Taylor (2020) and Weber and Henderson (1947), the structural frame shares many similarities with Morgan's (2006) machine metaphor. The frame provides an overview of various hierarchies including structures akin to Brafman and Beckstrom's (2008) regenerative starfish (i.e. leaderless) metaphor versus the more traditional hierarchy-dependent spider metaphor (i.e. leader dependent).

*Human resource frame.* The human resource frame (i.e. the family) suggests that organizations function much like a family with wants, needs and various human variables and considerations (Bolman & Deal, 2021). This frame relies heavily upon McGregor's (1960) seminal work on theory X (employees need supervision) and theory Y (employees are positively motivated) and Maslow's (1954) hierarchy of needs, which presented the enduring concept that the basic needs of workers create a prerequisite foundation for elevating the quality of work.

*Political frame.* The political frame (i.e. the jungle) conveys the organization as a dense and often murky network of relationships and power dynamics that requires coalition building, the wise accumulation and expenditure of power and negotiation (Bolman & Deal, 2021; Bolman & Gallos, 2011). It draws on concepts from Cyert and March (1963) and Gamson's (1968), particularly the inherent tension between partisans (i.e. non-authorities) and authorities in a conflict.

*Symbolic frame.* Culture can inspire and motivate organizations to achieve peak performance and enhance worker retention and recruitment with myths, symbols and overall organizational culture (Bolman & Deal, 2021; Schein, 2010). Schein's (2010) work on organizational culture heavily influenced the development of Bolman and Deal's (2021) symbolic frame; in particular, Schein's (2010) multi-layered approach to understanding organizational culture is dependent upon three levels: observable artifacts within the workplace, espoused values such as a mission statement and the unconscious or oftentimes difficult-to-articulate underlying assumptions (Hogan & Coote, 2014).

*Major leadership theories in higher education*

Four of the more common leadership theories in usage among higher education scholars appear below in further detail (Bolman & Gallos, 2011; Eddy & Kirby, 2020). The core leadership approaches surveyed in this literature review include adaptive, distributed, servant and transformational leadership theories.

*Adaptive leadership.* According to Heifetz, Grashow, and Linsky (2009), an adaptive challenge within a complex organization such as higher education necessitates new learning

that often accompanies difficult change. Embracing an adaptive approach has the potential to empower staff to think more creatively about problems they face.

*Distributed leadership.* As Rost (1991) and Heifetz *et al.* (2009) suggested, effective leadership in the 21st century should reach beyond the great man (i.e. heroic) leadership model that flourished in the 20th century and continues to persist even today (Spillane, 2005). A flatter organizational hierarchy, effective communications and distributed (i.e. team, shared or democratic) leadership can help ensure widespread participation from all organizational participants (Hartley, 2023; Spillane, 2005).

*Servant leadership.* A servant leadership approach excels in situations where maximizing empathy and listening can provide much-needed support for a team (Greenleaf, 1998; Hadley, 2024; Spears, 2025). It relies upon empathy and empowerment (Greenleaf, 1998; Spears, 2025) and a positive (i.e. non-coercive) approach to persuade allies and reluctant followers. Placing the well-being of employees before the leader's own desires or needs is central to the servant leadership approach.

*Transformational leadership.* Transformational leadership continues to draw upon inspiration and the adoption of a shared vision to motivate and elevate team performance nearly 50 years after Burns (1978/2010) introduced the two concepts. Rather than rely upon a transactional approach to elicit follower compliance through a series of rewards and punishments – transformational leadership seeks to support, inspire and develop individuals and teams to reach their maximum potential (Bass and Riggio, 2006; Kuhnert & Lewis, 1987).

#### *Adjacent literature: higher education and GLAMs*

The uniquely American experiment with higher education continues to produce more leading research universities than any other country in the 21st century (Times Higher Education, 2025). Given the many challenges facing the field, research pertaining to administrative, financial and even crisis leadership is often the singular focus of many contemporary researchers (Barnes & Gearin, 2022; Bolman & Gallos, 2011; Gigliotti, 2019; Powers, Garner, & Fife, 2024). One unique – and often historically siloed – division within academia is that of GLAMs. The GLAMs of higher education often operate as semi-independent organizational units on many campuses with a common goal of preserving, sharing and providing access to knowledge and cultural heritage (Botticelli *et al.*, 2019; Constantine, Garrity, Hammes, Lockwood, & Teesch, 2018; Deupi & Eckman, 2016; Stauffer, 2021).

#### *Adjacent literature: academic libraries*

Academic libraries support the higher education enterprise through collections of books and periodicals, research, teaching, training and scholarship (ACRL, 2024; Carlson, 2023; Dewey, 2017; Lu, 2024; Powers *et al.*, 2024). In many respects, academic libraries look and function much like academic museums do. Yet, unlike the academic museum field, academic librarians have produced a steady volume of empirical leadership studies. A recent literature search conducted by the author revealed over 24 empirical academic library leadership studies since the year 2000 (e.g. Ashiq *et al.*, 2021; Boyer, 2022; Kumaran, 2023; Shal, Ghamrawi, & Naccache, 2024).

One research thread that surfaces time and again is the application of Bolman and Deal's (2021) four-frame model to academic library professionals (Boyer, 2022; Johnson & Sobczak, 2021). As evidenced by the findings in Table 1, convergence among four empirical studies indicates that academic library directors favor the positive attributes of the human resource frame (Boff, 2015; Johnson & Sobczak, 2021; Tripuraneni, 2010; Yi, 2015).

#### *Adjacent literature: academic museums*

Much like their academic library counterparts, academic museums offer a host of interdisciplinary teaching and learning benefits to the higher education community

**Table 1.** Summary of Five Key Academic Library Organizational Leadership Studies

| Author               | Year | Study       | Theory                                    | Population                            | Methodology                                | Findings                                      |
|----------------------|------|-------------|---|---------------------------------------|--|---|
| Boff                 | 2015 | Diss.       | B&D<br>Org.<br>theory                     | Academic<br>library admin.            | Quant.<br>Descriptive stats                | 1. HR frame<br>2. Struct. Frame               |
| Boyer                | 2022 | Diss.       | B&D<br>Org.<br>theory                     | Academic<br>library admin.            | Qual.<br>Phenomenology                     | Five findings re:<br>leader approach          |
| Johnson &<br>Sobczak | 2021 | Peer-review | B&D<br>Org.<br>theory                     | Academic<br>library admin.<br>Museums | Quant.<br>Descriptive stats<br>Correlation | 1. HR frame<br>Mgr. v. non-mgr.<br>perception |
| Tripuraneni          | 2010 | Diss.       | B&D<br>Org.<br>theory                     | Academic<br>library admin.            | Quant.<br>Descriptive stats                | 1. Struct. Frame<br>2. HR frame               |
| Yi                   | 2015 | Peer-review | B&D<br>Org.<br>theory<br>Change<br>theory | Academic<br>library admin.            | Quant.<br>Descriptive stats<br>Regression  | 1. HR frame                                   |

**Note(s):** This table distills key findings from five research articles related to academic libraries

**Source(s):** Author's own work

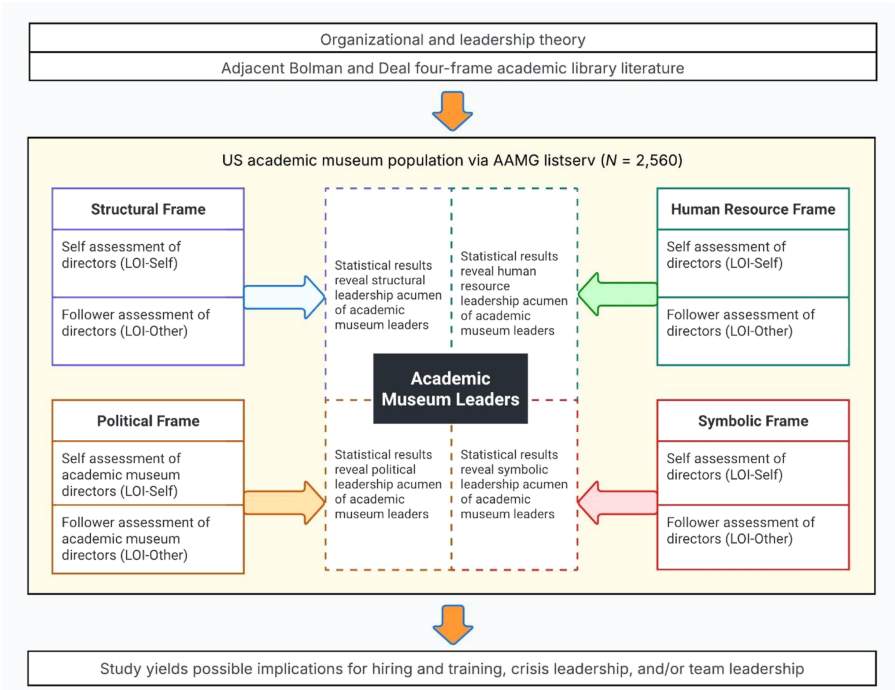
(AAMG, 2025; Eiland, 2019; Glesne, 2012; Wetenhall, 2019). Less than ten years after Benjamin's (1935/1969) publication on photomechanical reproduction and the role of replica appeared in 1935, Coleman (1942) wrote passionately about the need to establish museums on every college campus to advance research and teaching opportunities and likened the museum to that of a hands-on laboratory. By the 1980s, Sloan and Swinburne (1981) documented a substantial shift underway: the realignment of the academic museum mission beyond the university's walls to serve both campus and community stakeholders.

Despite the lack of literature concerning leadership in academic museums, the general (non-academic) museum field boasts considerably more research material. Yet, of 46 articles and book chapters reviewed for this subsection on general museum leadership, only eight leveraged sufficient empirical research methodology (Creswell & Creswell, 2018) to classify as such (AAMD, 2017; Bomar, 2013; Hausmann & Stegmann, 2021; ICOM, 2022; Letourneau, Meisner, & Sobel, 2021; Nunes *et al.*, 2021; Suchy, 2003, 1998) – far fewer than the number of studies highlighted in the previous academic library section of this literature review.

The unique subfield of academic museums remains vastly underrepresented in the literature on organizational leadership. In the early 2000s, several leadership-related articles appeared in the *Journal of University Museums & Collections* (Andrews & Blondheim, 2003; Munktel, 2003; Tirrell, 2002; 2003). More recently, Glesne (2012) study noted that visionary leadership is critical to elite academic museums and that the “exemplarity” of the work museums do is reflected in the quality of the leadership employed at those institutions (p. 235). Despite this progress, gaps in empirical literature specific to the organizational leadership of academic museums post-pandemic remain.

### Design and methodology

As outlined in Figure 2, this quantitative non-experimental research study evaluated the leadership orientation preferences of academic museum directors and their employees using a postpositivist approach. This theoretical perspective employs statistical analysis to reach conclusions that likely exist given the sampled population and study parameters, while also



**Figure 2.** Conceptual model for academic museum leadership study. *Note.* This model depicts the research study conducted using a quantitative approach. Source: Author’s own work

acknowledging my own inherent biases as a member of the surveyed population in question (Creswell & Creswell, 2018; Krathwohl, 2009).

*Population and sample*

The population selected for this study included academic museum directors and their employees from the USA. Given the lack of a comprehensive nationwide database of academic museums, this unique sub-population found within higher education was most widely available through the AAMG Groups.io Listserv, which as of February 21, 2025, reported a subscribership of 2,560 individuals. A non-probability convenience sample of  $n \geq 280$  academic museum directors and their employees drawn from the AAMG Groups.io Listserv served as the sample population.

*Instrumentation and variables*

Following written permission to use the LOI–Self and LOI–Others instrument from Bolman along with IRB approval from Central Michigan University, I assembled a branching survey for academic museum directors (LOI–Self) and all other academic museum employees (LOI–Others) in Qualtrics XM. The instruments contained 32 pre-determined questions that evaluated the latent dependent variables (i.e. four-frame proficiency) along with two leadership effectiveness questions and two demographic questions. Seven additional questions specific to academic museums – including primary discipline, Carnegie classification and museum staff size – were added as independent variables.

### Data collection and analysis

Data collection occurred via the AAMG listserv from May 28 to July 3, 2025. After data cleaning to remove incomplete and suspected bot responses, a total of 416 valid responses were collected for analysis ( $N = 149$  for LOI–Self and  $N = 267$  for LOI–Others). Data were analyzed using IBM SPSS. Descriptive statistics (mean, median, mode, standard deviation) were used to measure the latent dependent variables in RQ1 and RQ2 (Creswell & Creswell, 2018; Muijs, 2022). For RQ3, Spearman’s Rank Correlation test and the Mann–Whitney  $U$  test were used to investigate differences between frame means (Muijs, 2022; Pallant, 2020; Vogt & Johnson, 2011). For RQ4, the Kruskal–Wallis test was used to assess the relationship between the dependent variables of frame preference and the categorical independent variables (Muijs, 2022; Pallant, 2020; Vogt & Johnson, 2011).

### Results

This section begins with a summary of survey participant demographics, followed by statistical results arranged by research question.

#### Summary of survey participant demographics

In total, 416 valid responses were analyzed using SPSS. A majority of participants reported the primary discipline of their academic museum as art (51.8%) and approximately half (48.5%) of participants noted affiliation with an AAM-accredited museum. Additionally, an overwhelming majority identified as female (70.1%) and more than half (56.9%) fell into the 35–44 and 45–54 age brackets. Lastly, a larger proportion of seasoned museum professionals (mid-career and senior) completed the LOI–Self survey (83%) versus the LOI–Others survey (61%).

#### RQ1: LOI–Others descriptive statistical analysis

Academic museum employees from this study did not rate their leaders proficient in any of Bolman and Deal’s (2021) four frames, as none of the mean scores met the proficiency threshold of  $\geq 32$ . A key finding was the lack of meaningful deviation in the four-frame averages, with a spread of  $< 1\%$  occurring between frame differences. This suggests that employees perceived their leaders as having essentially the same low degree of perceived skill across all four of the frame domains (see Table 2). The dataset failed both the Kolmogorov–Smirnov test and Shapiro–Wilk tests, warranting the use of nonparametric tests for further analysis. The uniformity of these data and the failure of the statistical tests concerning distribution suggests a possible scenario where study participants actually made no significant

**Table 2.** Descriptive statistics for LOI–Others frame proficiency results

| Frame          | $N$                        | Mean  | Median | Mode  | Range | $SD$ | Skewness | Kurtosis |
|----------------|----------------------------|-------|--------|-------|-------|------|----------|----------|
| Structural     | 262 (valid)<br>5 (missing) | 26.69 | 27.00  | 22.00 | 32.00 | 7.89 | –0.31    | –0.53    |
| Human Resource | 267 (valid)<br>0 (missing) | 26.95 | 28.00  | 40.00 | 32.00 | 8.85 | –0.29    | –0.98    |
| Political      | 266 (valid)<br>1 (missing) | 27.02 | 28.00  | 25.00 | 32.00 | 7.73 | –0.43    | –0.31    |
| Symbolic       | 264 (valid)<br>3 (missing) | 26.74 | 27.50  | 27.00 | 32.00 | 8.71 | –0.44    | –0.62    |

**Note(s):** Data rounded to the nearest hundredth. None of the mean frame scores reported on the LOI – Others instrument achieved a frame proficiency score of  $\geq 32$

**Source(s):** Author’s own work

distinction between any of the four frames; in other words, perhaps participants lacked a true conceptual understanding of how to sufficiently evaluate their supervisors considering the unique advantages and disadvantages of the four frames.

*RQ2: LOI–Self descriptive statistical analysis*

Unlike employee ratings, academic museum directors self-rated themselves as proficient with the human resources frame ( $\mu = 34.07$ ) and near proficient with the structural frame ( $\mu = 31.72$ ) according to the results presented in Table 3. This central finding identifies how academic museum leaders approach complex problem solving: favoring interpersonal relationships and the use of organizational structure.

The results from this study nearly mirrored that of Boff’s (2015) study of academic librarians, which also found proficiency in the human resources frame and near-proficiency in the structural frame (see Figure 3). Again, the uniformity of these data and the failure of the statistical tests concerning distribution suggests a possible scenario where study participants actually made no significant distinction between any of the four frames; in other words, perhaps directors also lacked a true conceptual understanding of how to sufficiently evaluate themselves considering the unique advantages and disadvantages of the four frames.

*RQ3: Relationship or difference between LOI–Others and LOI–Self*

According to results from the Mann–Whitney *U* test presented in Table 4, a statistically significant difference exists between the leader-assigned scores on the LOI–Self instrument versus employee-assigned scores on the LOI–Others instrument. For example, the LOI–Others human resources frame score ( $Md = 28$ ) ranked lower than the LOI–Self score ( $Md = 34$ ),  $U = 10,557$ ,  $z = -7.86$ ,  $p < 0.001$ . This finding reaffirms that directors likely rate themselves as more proficient in the four frames than their employees rate them. Spearman’s Rank Correlation test revealed strong relationships among the frames within each respective instrument but not between the two instruments.

*RQ4: Differences between frame results and independent variables*

While years of experience and parent organization (Carnegie) classification did not yield statistically significant results, the staff size variable did result in a statistically significant value. An interaction revealed that directors at the smallest museums (1–3 employees) self-reported a statistically greater proficiency in the human resources frame compared to their director peers at the largest museums (21+ employees), with  $\chi^2(3, N = 147) = 11.64$ ,  $p = 0.009$  (see Figure 4).

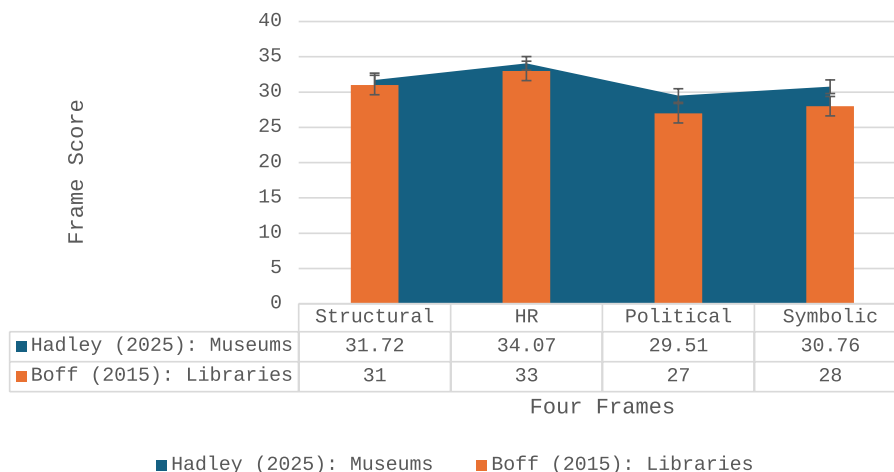
**Table 3.** Descriptive statistics for LOI–self frame proficiency results

| Frame          | N                          | Mean    | Median | Mode  | Range | SD   | Skewness | Kurtosis |
|----------------|----------------------------|---------|--------|-------|-------|------|----------|----------|
| Structural     | 147 (valid)<br>2 (missing) | 31.72** | 32.00  | 32.00 | 23.00 | 4.29 | −0.42    | 0.23     |
| Human Resource | 149 (valid)<br>0 (missing) | 34.07*  | 34.00  | 32.00 | 15.00 | 3.54 | −0.16    | −0.55    |
| Political      | 147 (valid)<br>2 (missing) | 29.51   | 30.00  | 31.00 | 22.00 | 4.35 | −0.23    | 0.07     |
| Symbolic       | 148 (valid)<br>1 (missing) | 30.76   | 31.00  | 32.00 | 25.00 | 4.43 | −0.35    | 0.26     |

**Note(s):** Data rounded to the nearest hundredth. A single asterisk (\*) indicates frame proficiency  $\geq 32$ . The double asterisk (\*\*) indicates that the mean score nearly achieved statistical frame proficiency  $\geq 32$  according to Bolman (2021)

**Source(s):** Author’s own work

## LOI-Self Assessment Results: Academic Museum vs. Academic Library Data



**Figure 3.** LOI-Self assessment results: academic museum vs. academic library data. *Note.* This figure visualizes four-frame LOI-Self results from this study and [Boff's \(2015\)](#) academic library director study. Both studies follow the same general trend line and rank order of frame proficiency. Source: Author's own work

### Discussion and implications

This study established a baseline understanding of how academic museum leadership operates vis-à-vis Bolman and Deal's framework. The findings revealed a disparity between director and employee perceptions, an alignment between academic museum and library leaders and a concerning underutilization of the political and symbolic frames. The fact that academic museum employees did not rate their supervisors as proficient in any frame revealed a real or perceived deficiency in leadership capability. The discrepancy between self and others' ratings was a key finding. It is possible that employees had difficulty assessing their leaders accurately, or that directors are overrating their own competency, a phenomenon potentially explained by the Dunning-Kruger effect ([Dunning, 2011](#); [McIntosh & Della Sala, 2022](#)). Crucially, the uniformity of data collected from both museum supervisors and their staff, evidenced by the clustered means and the failure of statistical normality tests, suggests that study participants may have lacked the ability to significantly identify frame proficiency. This finding leads to important implications concerning foundational leadership knowledge among staff and supervisors.

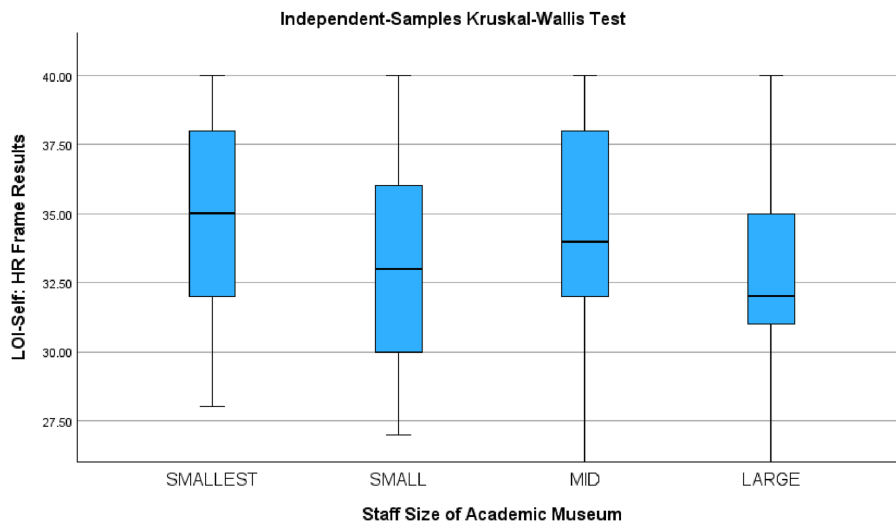
#### *Implications for professional development*

A clear need exists to create training resources for current and future academic museum leaders to build proficiency within the four frame dimensions. Creating a course module based upon [Bolman and Deal's \(2021\)](#) four-frame model – much like the Harvard Leadership Institute for Academic Librarians (LIAL) program ([Casey, 2015](#); [Lemon et al., 2022](#); [Harvard Graduate School of Education, 2025](#)) – could help ground participants in a leadership approach which they may already be passively practicing, while sharing strategies that employ the political and symbolic frames may help bolster deficiencies. Furthermore, if academic museum employees and supervisors currently possess little leadership knowledge or training,

**Table 4.** Mann–Whitney *U* test ranks and statistical results

| Frame            | Job class | Instrument | <i>N</i> | Mean Rank | Sum of ranks | <i>z</i> -Score | Mann–Whitney <i>U</i> | <i>p</i> -Value |
|------------------|-----------|------------|----------|-----------|--------------|-----------------|-----------------------|-----------------|
| Structural Frame | Leaders   | LOI–Self   | 151      | 254.95    | 38,497       | –6.29           | 12,390.000            | <0.001          |
|                  | Employees | LOI–Others | 261      | 178.47    | 46,581       |                 |                       |                 |
|                  | Total     |            | 412      |           |              |                 |                       |                 |
| HR Frame         | Leaders   | LOI–Self   | 151      | 267.09    | 40,330       | –7.86           | 10,557.000            | <0.001          |
|                  | Employees | LOI–Others | 261      | 171.45    | 44,748       |                 |                       |                 |
|                  | Total     |            | 412      |           |              |                 |                       |                 |
| Political Frame  | Leaders   | LOI–Self   | 151      | 228.89    | 34,562       | –2.91           | 16,325.000            | 0.004           |
|                  | Employees | LOI–Others | 261      | 193.55    | 50,516       |                 |                       |                 |
|                  | Total     |            | 412      |           |              |                 |                       |                 |
| Symbolic Frame   | Leaders   | LOI–Self   | 151      | 239.73    | 36,199       | –4.31           | 14,688.000            | <0.001          |
|                  | Employees | LOI–Others | 261      | 187.28    | 48,879       |                 |                       |                 |
|                  | Total     |            | 412      |           |              |                 |                       |                 |

**Note(s):** Data rounded to the nearest hundredth. Leader = LOI – Self instrument and Employees = LOI – Others instrument  
**Source(s):** Author’s own work



**Figure 4.** Kruskal–Wallis test results: LOI–Self and LOI–Others human resources frame  $\times$  staff size. *Note.* This box plot visually summarizes the frame proficiency scores reported on the LOI–Self instrument and subdivided by academic museum staff sizes. SMALLEST = 1–3 FTE employees, SMALL = 4–10 FTE employees, MID = 11–20 FTE employees and LARGE = 21+ FTE employees. Source: Author’s own work

then perhaps training programs should emphasize basic instruction of the four frames so participants can utilize this theoretical framework appropriately in real-world applications.

Although further research would be necessary, it is entirely possible that the stronger LOI–Self scores from the human resources frame results in this study ( $n = 149$ ,  $\mu = 34.07 \geq 32$  mean cut score) could support Cowan and Latham’s (2024) Flourishing Museum Framework – particularly around the elements of “. . . courage, transformation, care, optimism, gratitude, and delight” (Cowan & Latham, 2024, p. 8). The Flourishing Museum Framework could further inform perspectives on training and equipping academic museum leaders to leverage their greatest leadership strength – the human resources frame.

#### *Implications for hiring and recruitment*

Greater clarity around organizational leadership within academic museums could help provide guidance on future hiring practices both within academic museums and possibly within higher education. Deans, provosts and search committees could use the four-frame model to assess the specific fluencies desired for a new hire, leading to fewer failed searches, reduced turnover and better team performance (Frye, 2017; Vicker & Royer, 2023). For instance, academic museums or university administrations suffering from a toxic workplace culture might benefit from a prospective academic museum leader with a strong propensity for the human resources frame who can also fluently leverage the political frame (Bolman & Deal, 2021; Florczak, 2022). This perspective on museum culture and professionalism is critical for avoiding toxic work environments and connects directly to professional commitments (Mancino, 2016; Small, 2025). A data-informed approach could benefit both the academic museum and its parent organization (Consentino, 2019; Fischer & Roberts, 2018; Henrich & Ippoliti, 2024; Kenney, 2020).

#### *Crisis management and multi-frame proficiency*

As challenges confronting higher education create a ripple effect, many directors face potential collection sales or closures (Aguilar, 2024; Canning, 2024; Jick, 2024; Akers, 2024; Durocher,

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2024; Tugend, 2024). In the face of such unprecedented challenges, multi-frame proficiency is crucial for leadership success (Bolman & Deal, 2021; Bolman & Gallos, 2011; Morgan, 2006). Building political alliances and rallying supporters to an academic museum's cause may be one of the most powerful tools in a museum director's arsenal (AAMG, 2025; Morris, 2018; Semmel, 2019). Despite this, proficiency with the political frame was self-rated lowest by directors in this study ( $n = 147$ ,  $\mu = 29.51$ ). The underutilized symbolic frame provides another opportunity for directors to expand their toolset (Bolman & Deal, 2021). By reasserting a museum program that is robust and critical to the academic enterprise, academic museum directors can leverage both the political and symbolic frames to strengthen their position and make a case for investment rather than cuts (Eiland, 2019; Simpson, 2023; Wetenhall, 2019).

#### *Study limitations and future research*

This study faced several limitations, including non-normal datasets, a dependence upon the AAMG listserv for sampling, a scarcity of prior comparative data (Glesne, 2012) and a demographic skew toward female professionals at accredited art museums. Furthermore, the demographic composition of the listserv population is largely unknown, as the listserv is a free resource for students, scholars, practitioners and corporate sponsors. A refined census or a comprehensive mailing list could make for a far more focused empirical study rather than one dependent upon casting a wider net. A lack of responses from HBCUs and tribal colleges also limits generalizability.

Many research opportunities exist that could focus on specific subpopulations, employ mixed-methods approaches (e.g. Boyer, 2022), explore the perception gap between directors and employees, or investigate the relationship between multi-frame fluency and burnout. Additional research could also explore the intersection between academic library and academic museum personnel and create new avenues for addressing the exchange of leadership training materials between these two closely related fields.

#### **Conclusion**

This study utilized Bolman and Deal's (2021) four-frame model to evaluate leadership frame proficiency among academic museum directors. The data suggest that academic museum leaders evaluated themselves semi-proficient in the human resources frame and nearly proficient in the structural frame – much like a similar academic library leadership study conducted by Boff (2015) – while academic museum employees did not rate their academic museum directors proficient in any of the four frames. However, both datasets failed to demonstrate normality, leading to the conclusion that neither might support statistically significant differentiations between frame proficiencies.

In closing, strengthening the leadership skills of academic museum leaders and building multi-frame proficiency amidst the volatile uncertainty facing higher education is critical to the future of not just academic museum leaders, but all leaders within the higher education profession and beyond. Developing proficiency with all four frames could prove invaluable as academic museums and their parent organizations continue to face operational challenges. I am optimistic that future researchers and professional organizations such as AAMG will deepen empirical lines of inquiry beyond this baseline study, thereby extending the interdisciplinary linkages between galleries, libraries, archives and museums for our mutual benefit and continued success in the field of academic museums and beyond.

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