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## SCALE DEVELOPMENT FOR IDENTIFICATION OF ACADEMIC LEADERSHIP COMPETENCIES IN HIGHER EDUCATION INSTITUTIONS

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### Abstract:

It has been globally realized that the economic success of a country is dependent upon its Higher Education Institutions (HEIs). Academic leadership in HEIs is unquestionably the chief component for academic excellence. Competency-based selection is essential for job fit and organizational fit. Competency framework serves as a base to identify the knowledge and skills essential for success in leadership role. In this context the need arises to validate Academic Leadership Competency Framework (ALCF) with seven key competencies and sub-competencies developed by Aggarwal et al., 2021 through qualitative approach. The validation exercise was conducted by quantitative approach by using Exploratory Factor Analysis. The data was collected from 605 academic leaders from 42 HEIs. The data analysis revealed eight key competencies for selection of academic leaders. Hence, the present study resulted in a validated ALCF for selection of academic leaders in the Higher Education Sector. HEIs can use ALCF for selection of academic leaders on the basis of competencies possessed also recognized by National Education Policy 2020 (NEP) for an impartial, rigorous, merit-based and competency-based process in line with global benchmarks.

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### 1.0 Introduction:

Higher education plays an extremely crucial role in fostering human and societal well-being. Higher education significantly aids towards sustainable employments and economic development of nation as envisioned in Indian Constitution. Indian higher education system is one of the largest in the world with 1043 universities and 42343 colleges (AISHE, 2019- 20). However despite being large it faces certain challenges e.g. low Gross Enrolment Ratio (GER) of 27.1% (AISHE, 2019-20)

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as compared with China (49.07%) and US (88%). Working on a developmental agenda GOI aims to increase GER to 50% by 2035 (NEP -2020). In order to improve the GER there is a dire need to develop educational hubs which meet the global demands. Only quality higher education can develop thoughtful, well-rounded and creative individuals. Higher education institutions are complex organisations. Universities make a significant contribution to society intellectually, economically and socially. Boundaries of universities have widened, are permeable and have complex and broad projects to be completed e.g. student support and welfare, HR development, expanding the scope of higher education in regional and international platforms (Whitchurch, 2006). Thus, a demand is created for academic leaders who are competent to face these challenges and at the same time can be relied upon for balancing the interests of diverse stakeholders (Brown, 2001). There is a need for academic leaders with multiple competencies who not only work across boundaries but also contribute to the formation of new fields of knowledge, identify, cultivate and nurture faculty to pursue academic leadership and navigate the organizational growth and development (Kekale,2003) and (Turnbull & Edwards, 2005). Thus its crucial to select academic leaders who are the gate keepers of the quality standards and ensure institutional sustainability (Montez, 2003; Parker and Baporikar, 2013). The selection of academic leaders must be based on well researched mechanisms that predict successful performance. Mercer Mettl (2019) recommended the use of competency mapping in recruitment and selection of leaders. This requires creation of job role wise competency framework in order to identify who to hire.

## **2.0 Academic Leadership Competencies:**

Selection of competent academic leaders in HEIs necessitates the identification of academic leadership competencies determining success in this role. Given that universities face lot of variations in higher education eco system such as mass higher education, information boom, diminished public funding, higher accountability academic leaders must be equipped to face these challenges. Due to the increased awareness among students, vigilant approach of regulatory bodies and quality consciousness of accreditation agencies a sense of disillusionment has grown among academic staff, benchmarks of research and teaching have come under close scrutiny, while competition between universities has also increased. Hence academic leadership became the subject of interest for research on identification of competencies required by academic leaders for successful role performance.

Hammons & Keller (1990) identified the competencies and personal characteristics of future presidents of community colleges through a qualitative study. Initially a review of literature was done to develop a list of possible competencies of community college leaders. This list consisted of 62 competencies. Further analysis was done by soliciting the inputs of 27 judges resulting in 43 competencies. These competencies were clustered into leadership skills, group related skills and personal characteristics. The study concluded that a typical community college CEO must be a strong leader with excellent skills in group dynamics and should possess self- management skills. The findings of this study had significant implications in hiring future community college presidents. The competencies identified through this study were found useful in performance appraisal, career development and training of community college leaders. The researcher recommended that future studies should target a larger sample of academic leaders representing all accrediting colleges from different geographical areas.

Townsend & Moyo (1996) conducted a significant qualitative study in order to identify the skills, knowledge and attitudes, an academic administrator must possess. A total of 210 academic deans and vice presidents of various institutes were approached to explore such competencies. The results when viewed collectively identified six professional competencies namely conceptual, technical, contextual, interpersonal communication, integrative and adaptive. Townsend & Moyo

(1997) extended their work and added “Being adaptive” as another significant competency for an academic leader. Five professional attitudes were also identified namely career marketability, identification with one’s profession, ethics, concern for academic improvement and motivation for continuous learning. The studies of Townsend & Moyo (1996) and Townsend & Moyo (1997) recommended that future studies should include a partial replication of this study with other stakeholders e.g., higher education program faculty. Future studies should compare the perception of higher education faculty regarding knowledge and skills practicing administrators need to possess with competencies of practising administrators. Investigation of respondents’ enumeration of desired attitudes for academic administrators shall provide insights into their perspectives about the values and beliefs necessary for effective leadership. Hence Townsend & Moyo (1996) and Townsend & Moyo (1997) gave the direction for future research w.r.t competency mapping of academic leadership in higher education.

McDaniel (2002) reported the findings of a qualitative study that investigated core higher education leadership competencies (HELIC). 30 former American Council of Education (ACE) fellows were approached to identify behavioural characteristics of executive leadership in higher education. The findings were presented to senior university administrators and college presidents and their opinions were sought. The participants were asked to define the general HELIC or “core” competencies rather than presidential competencies. A preliminary HELIC model was developed after data collection. Competencies were classified into four categories: context, content, process, and communication.

Smith and Wolverson (2010) quantitatively tested qualitative HELIC model developed by McDaniel (2002) and presented a refined model by conducting a survey on senior university administrators and analysed the responses using factor analysis. The HELIC Survey was based on a comprehensive review of the literature, a pilot study, and feedback from experts. A diverse cross-section of leaders from higher education comprising of athletics directors, senior student affairs officers, and chief academic officers participated in the study. Thus, a refined HELIC model with five categories of competencies emerged specifically analytical skills, communication, management of student affairs, behavioural skills, and maintaining external relations. Smith and Wolverson (2010) recommended that in order to gain complete understanding of competencies necessary for effective higher education leadership further studies should survey senior executives, presidents, vice presidents, legal counsel, deans, department chairs, and directors. Further studies should focus on identification of sub competencies of leadership across the hierarchical echelons of higher education institutions. The competencies of current HELIC model should be further updated to explore underlying constructs of each element.

Seefeld (2016) replicated and extended the work of Smith & Wolverson (2010) to examine the leadership competencies in Concordia university in Luthera, Canada by applying the same to a unique population and conducted additional analysis. This study repeated Smith and Wolverson’s analysis of principal component analysis to ascertain whether or not McDaniel’s original theorized four constructs hold good for the Concordia University System (CUS) population. Results identified that competencies identified through HELIC model did not fit into McDaniel’s theorized four components, but instead a five-component model namely Leadership Competencies: A Model for CUS Institutions was obtained. The 5 components so identified were communication, contextual understanding, mission mindedness, professional development, and change leadership. Seefeld (2016) suggested that researchers should not adopt pre-existing models for leadership competencies and the same should not be used across populations.

Moore & Rudd (2004) conducted a qualitative study involving seven administrative heads working in chief administrator positions in the member universities of the National Association of



State Universities and Land- grant Colleges (NASULGC) in USA. This study identified six skill areas of extension directors and administrators namely- human skills, conceptual skills, technical skills, emotional intelligence skills and industry knowledge skills. The findings of Moore & Rudd (2004) were based on qualitative study; hence, the author recommended the development of a reliable and valid instrument which measures the competence of potential leaders. The author's recommended that such instruments should be tested w.r.t dimensionality of the construct by applying factor analysis.

Spendlove (2007) conducted a qualitative study to investigate the roles and competencies of Pro Vice-Chancellor, Rector, Principal of universities in United Kingdom. The study identified the attitudes, knowledge and behaviour required for effective leadership in higher education. Qualitative data were collected by conducting semi-structured interviews with Pro-Vice-Chancellors from ten universities in UK. The qualitative analysis resulted in identification of certain competencies clubbed into three broad themes namely credibility, experience and human skills. The researcher suggested that instead of borrowing models from business, the researchers should use a grounded theory approach to build comprehensive and novel models for effective leadership in higher education.

In depth review of extant literature w.r.t studies on Academic Leadership Competency Mapping revealed that majority of the studies adopted qualitative research methodology and recommended that future studies should adopt mixed methods approach for developing robust frameworks (Seefeld, 2016) Most of the past studies relied on the small samples around 100 academic leaders and could not fetch the perception of other stakeholders e.g. students, faculty members and administrative staff regarding the competencies necessary for success in academic leadership role. Spendlove (2007) suggested that instead of borrowing models from business, the researchers should use a grounded theory approach to construct comprehensive and novel models for effective leadership in higher education. Moore & Rudd (2004) recommended that the competencies explored should be used to develop an instrument that measures the competence of potential leaders.

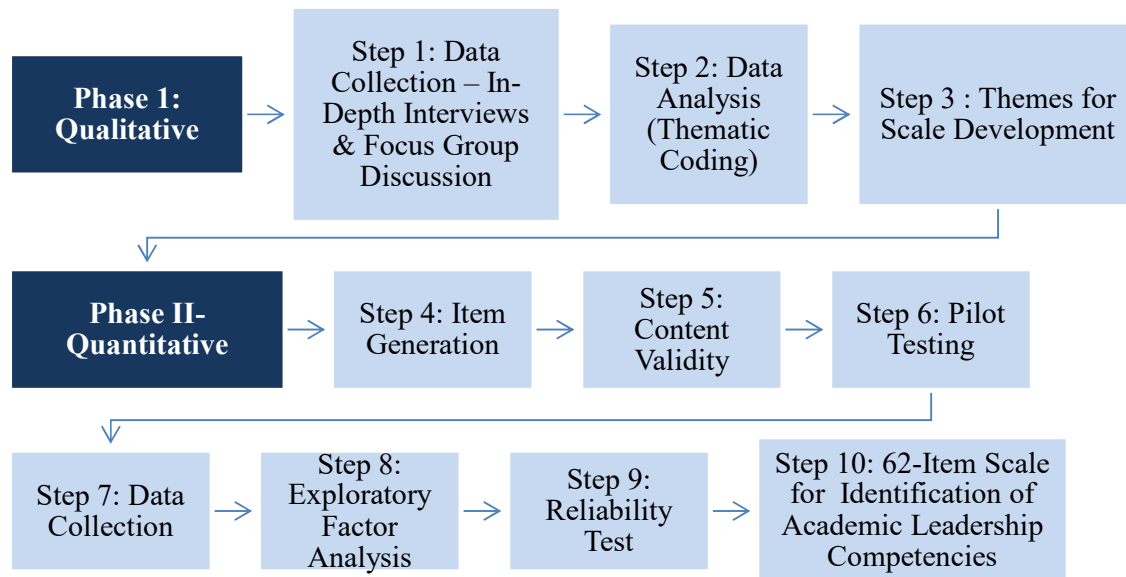
Academic Leadership Competency Framework (ALCF) (Aggarwal et al., 2021) proposed seven key Competencies instrumental for academic leadership role in HEIs. The framework was based on a qualitative study that adopted triangulation approach capturing the response of key stakeholders namely academic leaders, faculty members, administrative staff and students. Thematic Coding resulted in seven key competencies namely transformational leadership, strategic management and administrative skills, professional expertise, problem solving skills, attitudinal orientation, interpersonal skills and global mindset.

Further research was recommended to confirm the model through quantitative approach.

Hence the present study developed a scale for identification of academic leadership competencies on the basis of Academic Leadership Competency Framework (ALCF)(Aggarwal et al., 2021). Competency-based selection of academic leaders is the need of the hour and is crucial for individual and institutional success so that prospective candidates can be evaluated on a scientifically determined criterion.

### **3.0 Methodology:**

Scale development process recommended by Carpenter, (2018) was used to develop scale for Identification of Academic Leadership Competencies. The qualitative phase has been incorporated by Aggarwal et al., 2021 to construct the Academic Leadership Competency Framework (ALCF).



**Fig. 1: Steps for Scale Development**

Source: Computed by the authors

The Seven competencies and sub Competencies deduced in Academic Leadership Competency Framework (ALCF) were used to design a questionnaire comprising of 84 items. Content validity of the items was checked by nine experts in the field of management employed at senior positions in HEIs. Each item was modified as per experts' feedback and only those items were retained which had a content validity ratio of 0.78 and above (Lawshe, 1975). The response was sought on a five-point Likert scale where 1 represented 'unimportant' and 5 represented 'very important'. Finally, 78-itemed scale was obtained and pilot tested to ensure that respondents understood the statements in the context in which they were framed. Exploratory Factor Analysis was performed to identify the underlying dimensions of the scale measuring Academic Leadership Competencies. Thereafter, the scale was used to collect data from academic leaders in 42 HEIs from northern India, established in and before 2013 considering well developed systems and policies for selection of academic leaders. The sample comprised of Government HEIs (N=17) and private HEIs (N=25) selected through stratified random sampling, via a computerised draw of lots. In total, 800 questionnaires were disseminated to the targeted audience yielding 605 responses (86% response rate). For a fair representation, respondent academic leaders were drawn from four disciplines namely Commerce & Business Management, Science, Engineering & Technology, Medical, Dental & Paramedical sciences and Education & Humanities.

#### 4.0 Results:

Exploratory factor analysis was applied as data reduction technique which analyses a number of different variables to find any underlying relationships amongst the variables. The appropriateness of factor analysis was ascertained by computing Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy which was 0.964 (Table 1), well above the minimum standard value of 0.5 (Malhotra and Dash, 2011). Bartlett's test of sphericity with null hypothesis that the variables are not correlated in the population, was rejected (p value=0.000).

**Table 1: KMO and Bartlett's Test- Scale I**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.964
Bartlett's Test of Sphericity	Approx. Chi-Square	16094.180
	Df	1830
	Sig	0.000

(Source: Authors' Calculation)

Principal component analysis was used to identify the minimum number of factors that explain for maximum variance in the data. The data reflected that communalities for all variables were 1 before extraction and communalities after extraction reflected the common variance in the data. After rotated matrix 16 statements having Eigen value less than 1 were deleted. The factors describing maximum amount of common variance in the data were extracted. The factors with Eigen values greater than 1 were retained for further exploration and explanation of results. Varimax procedure was used for rotation of component matrix for interpretation of factors. This procedure involved orthogonal method of rotation that decreased the number of variables with high loadings on one factor and resulted into uncorrelated factors (Malhotra and Dash, 2011). Rotated component matrix resulted in eight competencies. Factor identification was done by recognizing statements having highest correlation with a factor, thereafter each factor was given a conceptual label and meaning w.r.t the variables that loaded heavily on them. Table 2 depicts a summary of factor analysis. Eight factors with reliability coefficient Cronbach's alpha values above 0.6 were obtained which is permissible for newly developed scales as recommended by Hair et al. (2009). These factors were labelled as *Interpersonal & Team leadership skills* ( $\alpha=0.902$ ), *Analytical Skills*, *Pluralism & Global Perspective* ( $\alpha=0.903$ ), *Strategic Management & Liasioning skills* ( $\alpha=0.787$ ), *Empathy & Ethical approach* ( $\alpha=0.794$ ), *Coaching Skills, Result Orientation & Positive outlook* ( $\alpha=0.854$ ), *Commitment & Self-Management Skills* ( $\alpha=0.693$ ), *Academic & Professional Expertise* ( $\alpha=0.670$ ) and *Transformational Leadership & Problem- Solving skills* ( $\alpha=0.681$ ) and accounted for 49.3% of total variance explained.

**Table 2: Summary of Factor Analysis**

Factor (variance explained)	Statement	Loading
<b>Interpersonal and Team Leadership Skills (9.6%)</b>	Handles crisis situations with poise and self-confidence.	0.563
	Possesses impactful communication skills.	0.556
	Identifies talent and delegates work as per the strengths of the team members.	0.541
	Observes staff performance and highlights the strengths and weaknesses by giving factual, specific and non- judgmental feedback.	0.527
	Comprehends people and assesses their personality skilfully.	0.513
	Choose the most effective mode to express ideas and convey information.	0.512
	Creates a work environment that embraces and appreciates diversity.	0.501
	Manages the team skilfully to elicit their cooperation	0.488
	Understands the value of culture, ethnic, gender and other individual differences in staff.	0.480

	Gains support and cooperation by creating professional network and liasioning within the organization.	0.453
	Manages own time, priorities and resources to achieve goals.	0.452
	Keeps an ideology that all human beings belong to a single community, based on a shared morality.	0.447
	Aware of one's own strengths and weaknesses.	0.423
	Approachable to students and connects easily with them.	0.414
<b>Analytical Skills, Pluralism and Global Perspective (9.1%)</b>	Aligns decisions and actions with the national agenda	0.568
	Objectively understands "The letter of law" during all interactions.	0.566
	Makes transformational changes in structure, policies and procedures	0.550
	Identifies and disseminates good learning and management practices across the department / institution.	0.514
	Uses global perspective in forecasting future needs of the Department / Institution.	0.507
	Systematically investigates study of materials and sources in order to establish facts and reach new conclusions.	0.480
	Identifies the tasks and the resources required to achieve those tasks	0.480
	Plans and exercises conscious control of time spent on specific activities to increase efficiency.	0.474
	Plans with a global perspective while considering local needs.	0.456
	Shows insight into the root cause of the problem and generates range of solutions with benefits, cost and risk associated with each solution.	0.430
	Enforces laws, rules and regulations in a manner that public perceives it as fair, objective and reasonable.	0.430
	Applies extensive knowledge to all the internal and external factors that influence the long-term success of the organization.	0.417
	Clearly understands 'the spirit of law' during enforcement.	0.414
	Assigns priorities to complex, multiple competing projects/tasks.	0.403
	Has knowledge regarding the other disciplines for all round development	0.402
	Critically evaluates institutional practices in the light of future opportunities.	0.418
	Prepares thoroughly by showing self-discipline and adheres to the plan.	0.416
<b>Strategic Management and Liasonin g Skills (6.8%)</b>	Has a vision on where to take the department / institution in the long term	0.621
	Persists until the goal is achieve	0.572

	Provides direction in crisis situations and defuses potentially violent people or situations.	0.533
	Anticipates the impacts and risks of decisions.	0.528
	Makes sound decisions keeping in the view the facts, risks, goals and constraints.	0.519
	Promotes organizational mission and goals and shows the way to achieve them.	0.508
	Builds constructive working relationships with external stakeholders.	0.487
<b>Empathy and Ethical Approach(6.7%)</b>	Follows moral and ethical path even at the cost of foregoing profitability and ease of operation.	0.712
	Keeps promises and commitments made to others.	0.635
	Understands the feelings and attitudes of others and puts self in others' shoes.	0.617
	Does not misrepresent self nor uses position for personal gains.	0.616
	Listens to people and helps them as and when needed	0.437
<b>Coaching Skills, Result Orientation and Positive Outlook (6.7%)</b>	Coaches, mentors and influences the subordinates.	0.516
	Links vision, mission, goals and strategies and values to every day work.	0.514
	Sees failure as an opportunity to learn from the past and continue to learn and grow.	0.490
	Consistently meets goals, objectives and standards of performance.	0.436
	Adopts proactive approach to avoid chaos and adverse results.	0.434
	Adopts good management practices for establishing procedures and monitoring results.	0.412
	Works meticulously with passion, determination and humility.	0.406
	Handles high workloads, competing demands, interruptions and distractions with poise and ease.	0.403
	Creates realistic schedules for projects and follows them.	0.403
	Balances wisdom, analysis, experience and perspective when making decisions.	0.401
<b>Commitment and Self-Management Skills(3.5%)</b>	Admits mistakes and takes responsibility for actions.	0.622
	Takes personal responsibility for the work output.	0.617



	Takes calculated risk and accept challenges to make progress.	0.461
Academic and Professional Expertise( 3.4 %)	Uses updated technology to perform key functions.	0.640
	Promotes and facilitates research orientation amongst the faculty.	0.580
	Checks work to ensure accuracy and completeness.	0.438
Transformational Leadership and Problem Solving Skills (3.2 %)	Influences others to act in support of ideas, programs and causes	0.577
	Helps to resolve complex and sensitive disagreements and conflicts	0.617
	Sees old problems in new ways with novel approaches to solve problems.	0.572

(Source: Authors' Analysis)

Thus, eight academic leadership competencies were generated on the basis of Exploratory Factor Analysis resulting in a robust Academic Leadership Competency Framework (ALCF) depicted in Fig. 2.



Fig. 2: Academic Leadership Competency Framework (ALCF)

Source: Authors' Analysis

## 5.0 Discussion:

The study resulted in identification of eight key competencies instrumental for success of academic leadership role and presented a robust Academic Leadership Competency Framework (ALCF) comprising of *Interpersonal & Team leadership skills, Analytical Skills, Pluralism & Global Perspective, Strategic Management & Liasioning skills, Empathy & Ethical approach, Coaching Skills, Result Orientation & Positive outlook, Commitment & Self-Management Skills, Academic & Professional Expertise and Transformational Leadership & Problem Solving skills* (Refer Figure 1). The findings have important implications for selection of academic leaders in Higher Education Institutions. National Education Policy 2020 recommended competency-based selection of academic leaders in higher education sector but using an unbiased, rigorous, merit-based and competency-based process in synchronization with global benchmarks. Previous studies (Hammons & Keller, 1990; Townsend & Moyo, 1996; Townsend & Moyo, 1997; McDaniel, 2002; Moore & Rudd, 2004; Spend love, 2007; Smith and Wolverton, 2010, Aggarwal et al., 2021) qualitatively identified the competencies of academic leaders in HEIs and recommended the development of a reliable and valid instrument for measurement of academic leadership competencies. Hence, the present study investigated the competencies required by academic leaders and resulted in construction of a framework specifying the competencies necessary for successful performance as an academic leader in HEIs. This framework would be instrumental in structuring the selection procedure of academic leaders so that prospective candidates can be evaluated on a scientifically determined criterion.

## 6.0 Conclusion:

Academic leaders perform a versatile role in navigating Higher Education Institutions in a volatile, uncertain, complex and ambiguous ecosystem. What competencies should they possess to lead the HEIs in such environment? Competency-based selection of academic leaders is the need of the hour and is crucial for individual and institutional success. Hence, HEIs need role specific competency frameworks to structure the selection procedure. This research study added to the existing body of knowledge by way of creating a robust Academic Leadership Competency Framework (ALCF) through Mixed Methods approach. The framework resulted in identification of eight competencies capturing the various dimensions of academic leadership role in Higher Education Institutions. ALCF presents a holistic picture that aligns with the findings of McClelland (1973) who recommended that mere intelligence is not a sufficient criterion for predicting success in a given job role, other aspects must also be investigated. The ALCF is a depiction of competencies essential for the role of academic leaders and is thus recommended to be considered for framing the selection criteria by Higher Education Institutions.

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