ROADMAP FOR REALIZING THE VALUE ADDED FROM EMPOWERING FEMALE ACADEMIC LEADERS: A LEAN LEADERSHIP APPROACH

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ABSTRACT

This study reflects the growing national and global trend toward empowering women and enhancing their role and participation in national development. It aims to develop a roadmap to add value by empowering female academic leaders (FALs) in Saudi universities. Lean leadership principles are recommended to eliminate hindrances of women's leadership activities, increase the quantity and quality of their leadership opportunities, and enhance their leadership roles' effectiveness. This study identifies critical organizational obstacles preventing Saudi universities from realizing the added value by empowering FALs and the requirements for achieving this from the perspective of women and those who work with female leaders. The study adopted a mixed-methods approach and various tools, including 3 exploratory workshops with 65 FALs, a field survey of the entire study sample, and 6 focus group interviews (FGIs) with 35 FALs. The results revealed several obstacles and requirements, from which we derived a roadmap. Some of the roadmap's most important features include changing the institution's culture, establishing a culture that encourages female leader empowerment, appointing inspiring-for-change leaders of all genders to senior and middle leadership roles, and establishing a dedicated office for achieving empowerment that reports to the university president. Furthermore, the roadmap emphasizes the importance of "field visits" to work sites to help understand the university's "current state" vs. the "target states" to create a roadmap to achieve the desired state. For this, consistent implementation and management of the roadmap, supervision, follow-up of progress, and continuous improvement are essential.

Keywords: Leadership, Empowering Women, Roadmap, Academic Leaders.

INTRODUCTION

Most universities worldwide face economic challenges that impede their progress and threaten their ability to compete at the local, regional, and international levels. These challenges become more critical when accompanied by poor human resource management and a low level of investment in human resources, especially women.

Arguably, although the added value women can offer in institutional leadership (Trinidad & Normore, 2005; Eagly, 2007; Blackmore, 2012), women's participation in university leadership remains below the desired level and, thus, a source of concern (Ghoneim, 2020). This

is consistent with local and global trends toward enhancing women's participation in leading development in all sectors.

Among these global trends, the most important is the new sustainable development plan, *"Transforming Our World: The 2030 Plan for Sustainable Development"* (UN General Assembly, 2015), an integrated framework for human, social, and environmental development goals. It represents a binding global agreement among the United Nations member states for the large-scale implementation of national development plans (UNESCO, 2019). In its fifth goal, the document adopted the achievement of justice and equity between genders based on the belief that achieving gender equality and empowering women and girls will further the progress toward all development goals and objectives. The goal was adopted based on the observance of full rights, equality of access, and respect for human rights, including the right to development. This goal was confirmed by the United Nations Economic and Social Commission's report at UNESCO (2019), which calls for adequate measures to ensure that laws empowering women are transformed into practice at all levels, from the individual to society.

With this goal in mind, successive development plans at the local level have emphasized the importance of strengthening women's leadership role and enabling them to actively participate in the development process to achieve the optimal investment of human resources and the intellectual and creative potential of women leaders. Women constitute more than 50% of university graduates (Saudi Vision 2030) and 42% of the total population (General Authority for Statistics, 2019). Furthermore, Saudi women are witnessing unprecedented development, which is evident in Vision 2030 for Saudi Arabia. This document outlines future trends for Saudi society and views women as an influencing factor in its ongoing formation and development. The Kingdom of Saudi Arabia has witnessed significant changes in recent decades, with women obtaining more responsibilities in the public field and occupying higher organizational positions (Thompson, 2015; Alsubaie & Jones, 2017). The status and participation of women in societal development improved following a series of royal decrees to empower women in legal, economic, and social fields (Omair et al., 2020).

Regarding gender parity, the World Economic Forum's (2016) annual gender gap report ranked Saudi Arabia 141st out of 144 countries and third-lowest among 18 countries in the Middle East and North African region. Furthermore, a recent study revealed a persistent and significant gender gap in senior positions: past efforts have bridged only 14% of the gender gap in the government sector and 10% in the private sector (Omair et al., 2020). Kingdom of Saudi Arabia's report on the Convention on the Elimination of All Forms of Discrimination against Women also confirmed that, despite the steady rise in women's participation in the labor force, they still fall short of the Kingdom's aspirations. The report also noted a transcendence of legislation and a lack of implementation where the gap between laws, legislation, and implementation persists (Al Awad, 2014).

As reflected in the literature, academia has divided opinions about Saudi universities' efforts toward gender parity and empowering women to pursue leadership positions. Despite women's increasing leadership role in various institutions (Thompson, 2015), women in Saudi universities still have fewer opportunities to advance to leadership positions than their male colleagues. Furthermore, they are typically appointed to c-levels in management (assistant deans) instead of senior management positions (deans, vice presidents, and presidents; Al-Moamary et al., 2019). The high percentage of educated women and female faculty members is not reflected in the percentage of women in higher education leadership roles (Table 1; Alsubaie & Jones, 2017).

Table 1 GENDER BREAKDOWN OF SENIOR ACADEMIC LEADERS IN SAUDI UNIVERSITIES IN 2017 (MEN AND WOMEN)					
Position	Women		Men		Total
	#	%	#	%	
University President	1	3%	33	97%	34
University Vice-President	12	9%	128	91%	140
University Dean	61	16%	330	84%	391
University Vice-Dean	228	30%	542	70%	770
Total	302	23%	1033	77%	1335

Source: Data adopted from Alsubaie & Jones (2017).

There are doubts that women's participation in senior management is inadequate. Some studies have revealed challenges hindering the full and effective participation of female academic leaders (FALs). Such women have faced obstacles preventing them from exercising their rights and responsibilities as academic leaders, which discourages other women from pursuing similar positions (Al-Fayez, 2014).

Although women in different parts of the world face diverse challenges in leadership positions (lack of equal opportunities, role models, and access to training and development opportunities), these challenges may differ according to different governing and guiding cultural contexts (Ghoneim, 2020). Expressing concern about FALs' role in local universities, several studies have noted organizational, material, technical, and cultural challenges impeding their empowerment in Saudi Arabia (Al-Fayez, 2014).

Most local studies reviewed agree that there are clear organizational obstacles of a high degree preventing women from securing leadership roles (Al-Fayez, 2014). Among the most prominent organizational challenges are the multiplicity of department heads and administrative references and the complexity of organizational structure, which tends to place men at the top of the hierarchy and delay implementation of FALs' decisions, thereby weakening their leadership. Decision-making remains the primary institutional challenge women face when exercising their leadership authority. Women are excluded from important decision-making positions, limiting their leadership authority, sometimes providing them with insufficient information to make decisions, and burdening them with excessive tasks and responsibilities (Al-Sheikh, 2013). Moreover, universities lack policies and procedures to empower FALs, including follow-up procedures and specific performance indicators to measure progress (Taha & Al-Ahmadi, 2017). The insufficient financial resources and inadequate facilities provided to FALs, compared to men in the same positions, also constitute a significant obstacle (Al-Sheikh, 2013). Furthermore, women lack material and technical resources (Al-Fayez, 2014). Programs for qualifying women leaders are limited, as are their opportunities to obtain experiences outside the university (Al-Sheikh, 2013).

The literature also revealed obstacles to organizational culture, which was the centrality of decisions (Al Awad, 2014; Ghoneim, 2020). Moreover, university leadership has adopted traditional methods that lack justice and equal opportunity (Al Awad, 2014; Ghoneim, 2020). Additionally, representation on committees is poor, women's leadership role is ambiguous, their roles may conflict, and they have many tasks and responsibilities (Al-Sheikh, 2013). Despite Al-Sayegh's (2019) finding that culture is not an obstacle, some researchers have revealed that traditional beliefs and practices within society prohibit women's career advancement and affect

their pre-selection as leaders. Popular beliefs regarding women's leadership skills and general hesitance to accept their authority remain a significant cultural challenge (Al-Fayez, 2014). The cultural preference for male leadership and a belief in the low efficiency of female leadership, which reflects the nature of socialization, affect women's self-confidence and ability to bear leadership responsibilities (Ghoneim, 2020). If women do obtain access to leadership roles, they tend to lack the ability to participate in decision-making fully. This necessitates training programs to spread a culture of empowerment (Al-Shaalan & Kaaki, 2013) and reveals an urgent requirement to build such programs based on enhancing dialogue, exchanging information, adopting teamwork and power-sharing, and focusing on human relations and task force adoption, as well as an organizational environment that helps implement empowerment mechanisms and focuses on designing training programs that promote a culture of empowerment (Al-Shaalan & Kaaki, 2013).

Lean production approach is considered the most prominent approach to lean leadership. Per Dombrowski & Mielke (2013), lean leadership is systematization for the sustainable and continuous improvement of a lean production system in which employees' and leaders' cooperation is encouraged for the pursuit of perfection and includes customer-centric operations and employees' and leaders' career long-term development (Dombrowski & Mielke, 2013). It is among the most critical contemporary administrative methods for continuous improvement in administrative processes due to its association with the lean production process, enhancing added value. It constitutes a set of practices within the institution and a fundamental change in how workers consider the search for value, consolidating new convictions to guide their behavior and practices. It depends on teamwork and involves all employees' cooperation (Rothstein, 2004).

Following the successful application of lean leadership in the industry, trade, and health services, the approach was then implemented in U.S. higher education institutions, including the University of Central Oklahoma and the University of Wisconsin–Madison. It was later successfully applied in universities in the United Kingdom, Romania, India, China, and others (Balzer et al., 2015).

Lean leadership aims to provide qualified leadership that recognizes the importance of development and support for change and continuous improvement. It also aims to identify waste in academic, research, and administrative processes, including anything that does not add value to the product or service, does not conform to the operational beneficiaries' specifications and requirements (Al-Sous, 2011), or consumes resources without adding any value from the beneficiary's perspective (Balzer, 2010).

In summary, lean leadership seeks to maximize the benefits received from the university's material and human resources, address problems resulting from waste associated with human production, and rely on workers' full participation. Thus, the following question can be proposed: how can Saudi universities adopt lean leadership and its approach—lean production—to achieve added value by empowering FALs through increasing opportunities for their quantitative and qualitative participation and enhance their leadership roles' effectiveness? Accordingly, this study aims to answer the following:

Using lean leadership, how can Saudi universities achieve added value by empowering FALs?

The following sub-questions emerged:

1. What are the most crucial organizational obstacles preventing Saudi universities from realizing the added value of empowering FALs?

2. From FALs' perspective, what are the requirements for achieving added value by empowering them in Saudi universities?

Theoretical Framework

The study's theoretical framework includes two key axes.

Lean Leadership: Concept, Principles, and Tools

Consistent with the changing and relativistic nature of the social sciences, the *"lean leadership"* concept has been viewed by different scholars in different ways. This is likely because it is relatively recent and because of the diverse interests of scholars and researchers and their different philosophies and schools of thought. Some scholars view lean leadership as *"a set of tools and techniques of continuous improvement, respect for individuals, and eliminating any waste in the production system"* (Cardon & Bribiescas, 2019). Others see it as *"a methodical system for the sustainable implementation and continuous improvement of Lean Production System"* (Dombrowskia & Mielkea, 2013) or as an *"important way to improve the performance of enterprises which is also a philosophy based on the participation of all employees"* (Martínez-Jurado & Moyano-Fuentes, 2014). These definitions are similar, as lean leadership focuses on lean production, full participation, and continuous improvement in systems and processes.

In addition to the principles that management is based on, lean leadership has its own principles. The most important is to make decisions carefully and without haste with the participation of all actors within the institution. Moreover, to identify the underlying causes of the institution's problems, it continuously addresses these problems according to specific administrative rules and creates a continuous operations flow. It also emphasizes a culture of continuous improvement and addressing problems quickly to ensure quality in the first lean production (Beauvallet & Houy, 2009). Additional principles were later added (Dombrowskia & Mielkea 2013) after a field experiment with 91 companies to identify principles that lead to lean, waste-free production. It involved developing the leader by adding new leadership skills and guiding leaders and staff to short courses, enabling participation in continuous improvement. Lean leadership also uses the Japanese principle of Gemba, or *"go to Gemba"*, which means *"the real place"* where value is created. It states that lean leaders should frequently make *"field visits"* to understand the company's processes better and make appropriate decisions. Furthermore, the principle of *"Hoshin Kanri", "target management",* is considered an essential principle of lean leadership. Target management describes the process of defining the scope of work and the company's short- and long-term goals as derived from the company's vision and mission as well as that of developing policies, standards, and indicators to ensure consistency of efforts to achieve these goals. It depends on the existence of a system that coordinates the direction of individual activities and ensures that improvements are consistent with the company's objectives and that each team realizes the extent of its contribution to the achievement of the company's strategic objectives to ensure compatibility among all functions and employee/leader levels. Furthermore, it ensures that normal operational processes and daily practices carried out by all workers are systematic and directed in the same direction toward their hierarchical achievement (Dombrowski & Mielkea, 2013).

The role of senior leadership is an essential pillar. The tools and techniques, as important as they are, are only a small part by comparison. Leadership is lean management's most important aspect (Radnor, 2010).

A standard tool in applying lean leadership is the *"Value Stream Maps"* method (VSM) used for mapping the stream of materials and information required to add value to the company's beneficiaries. VSM helps the company identify which steps add value and eliminate steps that do not (Zahraee et al., 2014). To apply VSMs, a specific process map is drawn to illustrate its current status, followed by creating an improved process map for its target status (McManus & Millard, 2002).

Standard Operating Procedure (SOP) is also used, which is determined by answering questions regarding the work and worker's nature, location, and time. This questioning process ensures that goals are achieved, resulting in continuous improvement and permanent customer satisfaction (Mironiuk, 2012).

"Just-in-Time" production is commonly used by lean leadership, which aims to produce the recipient's needs, in the required quantity, and using minimal resources. This production process aims to eliminate the loss of added value, continuously improve productivity, and provide access to perfect products or services (Javadian Kootanaee et al., 2013).

The *"Kaizen"* method is used to ensure continuous improvement. All employees of an organization participate through administrative thinking, work systems, problem analysis, and decision-making based on continuous performance improvement in all areas and levels. It aims to eliminate waste in the production process and address operations that do not add value. The Six Sigma tool, considered a new strategy, approach, or philosophy for ensuring continuous improvement, is based on several components, including training, continuous improvement, organizational culture, and support of senior administration, leading to the creation of a positive reputation for products and services, thereby benefiting all stakeholders (Antony et al., 2012).

Lean Leadership and Empowerment Opportunities for FALs Empowerment

Within academic institutions, empowerment is often associated with the maximization of individual self-worth by providing equal opportunities for participation in decision-making, decision implementation, follow-up, evaluation, professional development, and teamwork. Some consider empowerment the *"building [of] individuals who feel their value through participation in decisions, planning processes and encouraging them, and continuing to provide them with training, which allows them to contribute to the overall success of society"* (Lawson, 2005). However, others view it as *"a stage of improvement of the ability to make decisions through collaboration, participation, training, learning, and teamwork"* (Tutar et al., 2011). This is consistent with the concept of *"empowering women"*, which has been defined as *"the process that indicates women's ownership of resources and their ability to utilize and manage them to achieve a set of accomplishments"* (Huis et al., 2017). Women's empowerment includes three interrelated elements: resources, management, and achievements.

Weak empowerment of FALs is among the most significant manifestations of waste in universities because they are critical human resources (which is examined in this study). The waste of human resources is the most prominent and dangerous manifestation of waste in universities, as the human element is vital to a university's system. It is defined as the poor utilization of the talents and potential of faculty members and staff to the detriment of the university's internal and external beneficiaries, reputation, and competitive advantage and the university's failure to take full advantage of the special knowledge, skills, and abilities of its faculty members and staff (Balzer, 2010).

Various types of waste have been observed in universities: waste through defects, overproduction, transportation, waiting, and excess processing, as well as the waste of traffic,

inventory, skills, and human resources. One type of waste regarding academic women leaders is the *"waste of processes"* which consists of groups of constraints and deficiencies that occur due to the process design or implementation, thereby preventing it from achieving its intended objectives. *"Waste of information"* indicates a lack of available information and that available information is not sufficient to support operations. *"Waste of assets"* refers to the weak investment of the university's material and human resources, which negatively affects the achievement of its vision, mission, and objectives. *"Waste of leadership"* is considered the highest level of waste, as it leads to other forms of waste remaining invisible and continuous.

If the application of lean leadership in universities is evident in the leader's pivotal role and relies on the investment of all resources and competencies within the institution, then university leadership must understand how their leadership behaviors can address operational waste. They should provide university employees with clear performance goals with absolute performance measurement standards to help them focus their time and energy (Balzer, 2010). Additionally, they must believe that teamwork is a system aimed at maximizing the utilization of capabilities.

The successful application of lean leadership in universities requires reviewing laws, regulations, and practices in the legal, organizational, human, financial, and leadership contexts. Preparing the legislative and legal environment, for example, is necessary to support its application to various university operations. It is also essential to make changes in the university's organizational culture that align with the philosophy of lean leadership and ensure an organizational structure that supports its application. Moreover, leaders and workers, who represent the organization's human capital, should have access to skills development opportunities that enable them to contribute to the university's continuous improvement by providing of appropriate education and training opportunities. Furthermore, the decision-making cycle should be managed, followed, and evaluated. Finally, work processes must be changed and circulated so that all employees have the necessary authorization to accomplish their tasks; this can be done by adopting a culture of excellence, supporting innovation and creativity, and committing to university employees' fair and equitable treatment. To achieve this, financial resources are required for training and development, rewards and incentives, and the provision of materials, equipment, and other resources. The *"Leadership Requirement"* is the mainstay to achieving lean production, wherein work must be led by individuals with competencies that are compatible with the nature of lean leadership; for instance, individuals must have a strategic vision enabling them to face future changes and challenges. They also must have administrative commitments and conduct field visits to observe and understand existing problems (Antony et al., 2012).

Aligning with this, the analytical view of empowerment within institutions confirmed in some literature is included via many elements, such as via empowerment through the identification of responsibilities, authorization, development, training and knowledge acquisition, delegation, strengthening of administrative communication within the institution, empowerment through standard-setting, feedback, and demonstration of trust, respect, and appreciation by leadership. It may offer a vision of the added value that the application of lean leadership can provide and the impact on FALs' empowerment in universities. Its empowerment as a partner in building and development will positively impact work and production within the university community and may extend to influential and active development roles in different community circles. This encourages the proposal of a roadmap for the added value of empowering FALs in light of the application of lean leadership aimed at in this study.

METHODOLOGY

This study adopted the *"Mixed-Methods"* research design, combining quantitative and qualitative approaches (Creswell, 2002). The methodology relies on several tools (Figure 1).

FIGURE 1
STUDY METHODOLOGY AND TOOLS

Exploratory Workshops

Three exploratory workshops were held with 65 FALs in three Saudi universities. FALS were nominated by their universities based on the ministry's categorization: old government universities (31), emerging government universities (19), and private universities (15). The workshops aimed at discovering the personal, institutional, and societal obstacles preventing women from fulfilling their leadership roles.

Field Survey

A survey has been created, considering literature and exploratory workshops, to determine the degree to which value-added constraints are available to enable FALs at Saudi universities. It included the study's entire community and was given to the following groups: FALs, FALs' subordinates, academic leaders, and FALs' superiors in all Saudi universities. The survey questions included four fundamental axes: personal, administrative, institutional, and societal obstacles. Participant responses were measured according to a five-point Likert scale (strongly agree, slightly agree, agree, disagree, and strongly disagree). The survey was revised to verify its validity and then amended to its final form (30 items) based on the arbitrators' opinions.

The questionnaire was distributed to an exploratory sample of 33 individuals. The Pearson correlation coefficient was calculated to determine the internal consistency, ensure that all statements were related to the relevant vital axes, and confirm that those axes were related to the questionnaire. The stability of the survey overall was calculated by the *"Alpha Kro-Nbach"* method and was 0.966, an acceptable value for confidence in its stability.

Survey invitations were sent through official electronic correspondence, targeting all Ph.D. holders. Per the latest available statistics (Annual Report of the Ministry of Education, 2017-2018), a total of 35,529 Saudi university members received the survey invitation during the second semester of 2020. Despite repeated follow-ups, the final sample had only 848 individuals (2.4%).

The data were analyzed using the Statistical Package for Social Sciences (SPSS) program, in which the frequencies, percentages, arithmetic mean, and standard deviations were calculated. Cronbach's alpha was used to measure survey reliability. The Pearson correlation coefficient was calculated to confirm the validity of the survey's internal consistency. To determine the length of the cells (the lower and upper limits), the range was calculated (5-1=4) and then divided by the number of cells on the scale to obtain the correct cell length (5/4=0.80). Thus, cell lengths were as follows: 1.00 to 1.79 indicates very low, 1.80 to 2.59 indicates low, 2.60 to 3.39 indicates medium, 3.40 to 4.19 indicates high, and 4.20 to 5.00 indicates very high. Table 2 summarizes the descriptive results of the sample's demographic variables.

Table 2 DESCRIPTIVE CHARACTERISTICS OF THE STUDY SAMPLE			
Variable	**Categories**	**Frequency**	**Percentage**
Gender	Female	696	82.1%
	Male	152	17.9%
	Total	848	100.0%
University Type	Emerging government university	592	69.8%
	Long-established government university	192	22.6%
	Private university	64	7.5%
	Total	848	100.0%
Professional status	FALs' subordinates	309	36.4%
	FALs	297	35.0%
	FALs' superiors/Colleagues	242	28.5%
	Total	848	100.0%

According to gender, most were female (82.1%). The emerging, old, and private universities comprised 69.8%, 22.6%, and 7.5%, respectively. Regarding job positions, the largest percentage was female faculty members who worked with FALs (36.4%), followed by FALs (35.0%) and then male leaders (FALs' superiors and colleagues; 28.5%). It is believed that the study sample's diversity allows a multi-dimensional view of the topic, which may provide more complete and objective results.

Focus Group Interviews

Six Focus Group Interviews (FGIs) were conducted with 35 FALs nominated by their universities (two interviews per university): A long-established government university (seven, six), an emerging government university (six, five), and a private university (five, six). Each interview lasted from two to three hours and was held via the Zoom platform due to COVID-19 restrictions.

In light of the literature review, exploratory workshop, survey, and FGI results, a proposed roadmap will be developed to achieve the added value of empowering FALs at Saudi universities, considering the application of lean leadership.

Study Outcomes

The exploratory workshops and field survey aimed at answering the first research question—*"What are the obstacles to achieving added value in enabling FALs at Saudi universities from the perspective of academic leaders at the university?"* revealed several obstacles.

The results of the workshops showed constraints associated with the prevailing institutional culture, most notably men's low acceptance of women as leaders, resistance by some women to their leadership, lack of equal opportunities with male counterparts, poor representation on committees, and lack of recruitment to senior management positions. The results also revealed organizational constraints, such as weak incentives, lack of backup and support, inadequate professional development, a low level of material and human resources for women-led sectors, and the marginalization of power in their leadership positions.

Table 3 shows that the field survey respondents moderately agree that obstacles exist that prevent Saudi universities from achieving added value by empowering FALs (2.67 with a standard deviation of 0.72):

#	Table 3 ARITHMETIC AVERAGE AND STANDARD DEVIATION FOR SUB-AXES AND THE ENTIRE SURVEY				
#	Statement	Arithmetic average	Standard deviation	Rank	Explanation
1	Administrative obstacles	2.70	0.88	1	Medium
2	Obstacles related to institutional culture (within the university)	2.62	0.94	2	Medium
Total	General arithmetic average	2.66	0.72	-	Medium

The two axes obtained a (medium) degree of approval. The administrative obstacles ranked first with an average of 2.70, while the obstacles related to institutional culture ranked second with an average of 2.62. These findings are consistent with those of Al-Jarbu`& Al-Muhaisin (2010), Abdul-Karim (2014), and Al-Tuwaijri (2014), which indicated that organizational and cultural obstacles limit the empowerment of women within universities and reduce opportunities for them to hold leadership positions.

Table 4 shows that the statements related to the administrative obstacles axis received a medium degree of agreement, except for two statements (10 and 11), which obtained a low degree.

Statement 6 (lack of qualifying programs for leadership positions) ranked first, with an average of 2.85, followed by Statement 5 (duplication of responsibilities resulting from the integration of organizational structures between male and female students) with an average of 2.85. Statement 7 (lack of equal opportunities in infrastructure for women's sectors in the university) was third, with an average of 2.77. Meanwhile, Statements 11 (insufficient communication channels with male leaders) and 10 (discrimination in material incentives between women and men) were last, with a low degree of agreement and averages of 2.43 and 2.36, respectively.

Overall, these findings align with those of other studies examining the shortcomings and inadequacy of professional growth programs for FALs and their lack of equal opportunities. One study noted the poor facilities offered to FALs, compared to men in the same position, while the

declining availability of essential equipment in women's sectors. The current findings also support the previous study, who argued that it is necessary to propose organizational solutions for restructuring universities to ensure that administrative independence is granted to women-led departments.

The low degree of agreement obtained for the statement related to *"discrimination in material incentives between women and men"* can be interpreted as the conviction of the respondents that no such discrimination exists according to written rules and regulations. However, discrimination exists in incentives that are not based on a transparent and fair system, as shown by the FGIs. These findings align with those of Al-Tuwaijri's (2014) study on the transparency and clarity of incentive systems.

#	Statement	Arithmetic average	Standard deviation	Rank	Explanation
	Table 4				
	ARITHMETIC AVERAGES, STANDARD DEVIATIONS, AND RANKS OF RESPONSES FOR THE ADMINISTRATIVE OBSTACLES AXIS				
6	Lack of qualifying programs for leadership positions	2.85	1.14	1	Medium
5	Duplication of responsibilities resulting from the integration of organizational structures between male and female students	2.85	1.16	2	Medium
7	Lack of equal opportunities in infrastructure for women's sectors in the university	2.77	1.16	3	Medium
4	Lack of equitable resource distribution between men and women in similar leadership positions	2.76	1.15	4	Medium
3	Poor facilitation offered to FALs, compared to their male counterparts	2.75	1.14	5	Medium
8	Lack of equal opportunities in financial resources for women's sectors in the university	2.75	1.15	6	Medium
2	Insufficient involvement of FALs in drawing up strategic plans	2.74	1.13	7	Medium
1	Underrepresentation of women in some academic leadership positions	2.70	1.09	8	Medium
9	Lack of equal opportunities in human resources for women's sectors in the university	2.69	1.07	9	Medium
11	Poor communication channels with male leaders	2.43	1.04	10	Low
10	Discrimination in material incentives between women and men	2.36	1.12	11	Low
	General arithmetic average	2.59	0.81	-	Low

Table 5 shows that all the statements related to the institutional obstacles axis received a medium degree of agreement, except for two (5 and 6), which received a low degree of agreement.

In descending order, Statement 1 (lack of conviction in FALs' decisions) ranked first, with an average of 2.68, followed by Statement 2 (the declining level of transparency in organizational heads' interactions with FALs), with an average of 2.65, and Statement 3 (poor motivation by men for decisions supporting FALs), with an average of 2.64. Statements 5 and 6 were last, with a low degree of agreement and averages of 2.59 and 2.55, respectively.

These results can be attributed to the negative stereotypes associated with FALs and their social heritage and the lack of confidence in their leadership capabilities. The FGIs support these findings, calling for eliminating such stereotypes through diverse channels and means. These findings align, which highlighted the pressures of the work environment binding female

executives to decisions made without their input, rather than allowing their participation in the decision-making process, and restricting their actions to specific tasks and responsibilities that are not required of top leadership. The current findings are also consistent with Al-Tuwaijri's (2014), which indicated that a significant obstacle to empowering FALs in Saudi universities is the lack of conviction universities have in women's decisions—the belief that FALs cannot make independent decisions without consulting a male leader. Moreover, our findings align with those of Al-Fayez (2014), who unveiled society's prevailing attitude that top leadership positions should be restricted to men. This was confirmed by another study, who highlighted the significance of reassessing the organizational culture that influences women's relationships with work and leadership roles, and by Al-Tuwaijri (2014), who observed a reluctance to accept the power of women in leadership and decision-makers' insufficient confidence in women's capabilities.

	Table 5 ARITHMETIC AVERAGES, STANDARD DEVIATIONS, AND RANKS OF RESPONSES IN THE INSTITUTIONAL OBSTACLES AXIS				
SN	Statement	Arithmetic average	Standard deviation	Rank	Explanation
1	Lack of conviction in FALs' decisions	2.68	1.10	1	Medium
2	Declining level of transparency in organizational heads' interactions with FALs	2.65	1.11	2	Medium
3	Poor motivation provided by men for decisions supporting FALs	2.64	1.07	3	Medium
4	Underrepresentation of FALs in meetings at the university level	2.63	1.05	4	Medium
5	Underrepresentation of FALs on various committees	2.59	1.05	5	Low
6	Lack of support of FALs from female colleagues	2.55	1.06	6	Low
	General arithmetic average	2.62	0.94	-	Medium

The second research question—From FALs' perspective, what are the requirements for achieving added value by empowering them in Saudi universities?—was answered qualitatively through FGIs. The findings suggest that universities should:

1. Formulate a policy for empowerment that defines leadership tasks, addresses double standards and encroachment, provides explicit references, activates and increases female leaders' power, and provides equal material resources to men and women, including equal budgets, buildings, and equipment. The policy should also address qualified human resources and fairness regarding references, tasks, workload, and equality in such incentives and opportunities as allowances, rewards, and incentives. Finally, it should offer equal opportunities for participation in high-level committees, representation, and external participation.
2. Designate an office responsible for empowering female leaders that focuses on creating targeted initiatives and following up and assessing performance according to systematic plans.
3. Periodically open diverse and direct communication channels between top leadership and FALs.
4. Focus on qualitative professional development programs for female leaders and provide opportunities for them to meet local and international experts while tolerating initial setbacks.
5. Include programs that aim to address cultural obstacles and change the stereotype of the female leader by highlighting effective FALs through institutional marketing within professional development opportunities and development programs at the university. Additionally, reconsider the standards and mechanisms for nominating people to leadership positions. These should rely on accurate indicators to ensure the selection of qualified women who will help improve society's mental image of female leaders.

Roadmap

The study's central question is: What is the proposed roadmap for achieving added value in empowering FALs at Saudi universities considering the application of lean leadership? It was answered utilizing the conceptual framework, previous studies, and the current study's findings obtained through exploratory workshops and field surveys, as well as proposals collected through FGIs.

The proposed roadmap aims to improve the efficiency and effectiveness of university processes and systems and eliminate the various forms of waste that prevent female leaders from making decisions, which further prevents the university from realizing the added value offered by FALs. The proposed roadmap reflects the global perceptions of the impact of women's roles and their positions in society and the tendencies of countries and international and regional governmental and civil organizations to integrate women into development processes and facilitate ways to empower them. It also reflects the current social and cultural trends aimed at empowering women in Saudi society to help the country achieve sustainable development, directed by the ambitious goals of Vision 2030.

The realization of this added value requires universities to reconsider their organizational culture, governing values, laws, systems, and practices and formulate them following the lean leadership philosophy. This is because the existence of a supportive organizational structure is necessary to minimize the obstacles, constraints, and various forms of waste women leaders face, such as processes waste that obstructs their tasks and participation in making decisions related to their work, information waste that affects them in making their decisions and facilitating their work, asset waste in terms of material resources or maintenance operations, such as movement and transportation waste, when they are not effectively employed to serve the entities led by women, and human resources waste, such as their shortage or low level or the lack of investment in the capabilities of the leader herself as a human resource within the human assets of the university.
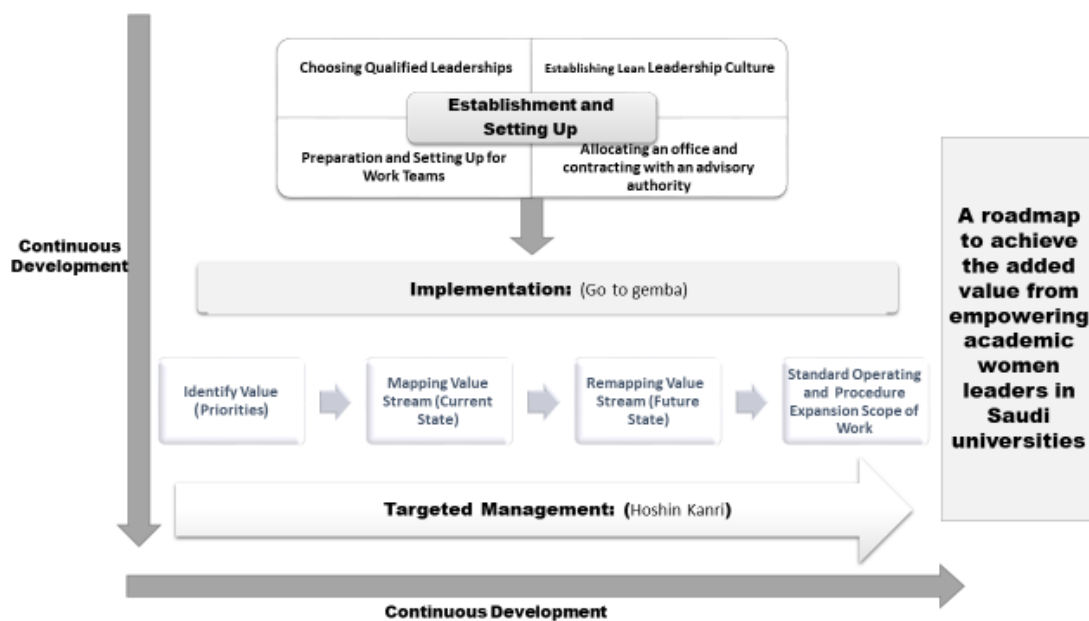

FIGURE 2

PROPOSED ROADMAP TO ACHIEVE ADDED VALUE IN EMPOWERING FALS AT SAUDI UNIVERSITIES CONSIDERING THE APPLICATION OF LEAN LEADERSHIP

Different studies applied different approaches like SWOT analysis (Alexandri & Raharja, 2020; Alexandri et al., 2019), automatic search method (Thaha et al., 2021) and qualitative exploratory approach (Tresna et al., 2019). Empowering FALs, institutionally and organizationally, requires adopting a comprehensive approach to overcome obstacles and foster opportunities for female leaders. We hope to achieve this through the proposed roadmap, which includes three primary stages (Figure 2).

Stage One: Establishment and Preparation

This stage includes four steps.

Establish a Lean Leadership Culture

The transition to lean leadership requires modifying the organizational culture. This is not an easy process as institutions have long-standing traditions and practices, including women's leadership issues. It creates a stalemate that is difficult to overcome because the members of the institution have their ingrained ideas that reinforce their resistance to change.

This transition creates a stalemate that is difficult to overcome, and it is easy for staff to revert to old habits rather than fully embracing new processes. Therefore, changing the organizational culture is a vital leadership objective, as top leadership is more capable of changing the attitudes, values, and habits of a non-inclusive hierarchical bureaucracy. The adoption of the lean leadership approach is crucial for achieving this change.

Introducing cultural change and spreading the culture of lean leadership must begin early and continue for a long period to provide a comprehensive picture of the change process and make each member aware of its causes, feasibility, and expected benefits to ensure that it is achieved. To consistently gain supporters, it is essential to adopt a media plan to communicate the initiatives' benefits and positive outcomes. Marketing positive outcomes can motivate adopting change and removing obstacles.

The proposed mechanisms include the introduction of workshops and informational meetings for all administrative support staff. These meetings should introduce lean leadership's goals and advantages and the necessary steps to implement this cultural change. This should be followed by issuing periodic newsletters (monthly or quarterly) that highlight the excellent work that has been accomplished. Moreover, the university can organize an annual exhibition with posters and mini-sessions that encourage the exchange of knowledge and experiences among colleagues and opportunities to explore further innovation and improvement. Such activities will help change individuals' way of thinking, provide them with a comprehensive vision of their roles, and help them understand their colleagues' roles, further enabling them to identify waste.

Creating a motivating work environment encourages change adoption because it allows employees to see the personal benefits of such a change. Showing them that their efforts are respected and appreciated may alleviate the frustration that may negatively affect their progression. Furthermore, employee engagement, empowerment, and respect can ensure any transition program's long-term sustainability.

Choose Qualified Leaders and Identify Core Competencies

Lean leadership is a transformational journey in any organization and requires inspiring change leadership. Thus, leadership's role is crucial in applying lean leadership principles. Therefore, universities must choose individuals of all genders for top and middle leadership roles who believe in lean leadership and model commitment; without solid and committed leadership at all stages, most targeted transformations will not be achieved. To overcome these challenges, the following change tools are required: a clear and ambitious vision for empowering women and flexible thinking; skills for managing the decision-making process, including follow-up and assessment processes and visits to worksites; a culture of excellence; support for innovation and creativity; respect; and fair and equitable treatment of all university employees. To achieve this, universities should provide the necessary financial resources for professional growth programs, rewards, incentives, materials, equipment, and so forth.

To ensure that work is completed in a timely and quality manner and is consistent with the cultural change being implemented, it is crucial to identify qualified individuals at all levels. If the top leadership needs to make changes, passionate and self-motivated individuals who can efficiently analyze available data, identify challenges, suggest possible solutions, and strive to achieve the goal should be employed. They should also have the necessary skills to undertake their tasks at the right time, place, and way.

Designate an Office and Contract with an Advisory Body

Designating an office or unit that reports directly to the university president is essential. The office should aim to achieve empowerment, supervise all processes, closely monitor planning processes, and schedule future initiatives. Additionally, it should support department leaders to launch continuous improvement activities and fulfill its strategic role by fostering the replication of good practices across the university, including follow-up procedures and performance assessments according to systematic plans. This should be supported by contracting an advisory body (center of expertise specialized in lean leadership), including certified practitioners who orient its efforts and provide advice. Moreover, universities can also partner with pioneer businesses and organizations with a successful history of using lean leadership to take advantage of their expertise.

Preparing and Setting up Task Forces

This step focuses on creating awareness among the workforce of all genders and preparing and setting up multi-skilled leaders and individuals for their new roles. An essential step in the change journey is employee development and empowerment through training programs to build knowledge, values, and skills, enabling them to use lean leadership tools and methods in different processes, levels, and stages of time. However, it should focus on the application aspect and include examples of simple applications in the university environment. These programs should present lean leadership principles and their impact on the work environment and the change tools through which work is accomplished to enable teams to better understand lean leadership without becoming defensive. These programs should be widely available to enable employees to effectively contribute to the university's continuous improvement.

Stage Two: Implementation-Starting from the Field (Go to Gemba)

This stage includes setting up a framework, including several steps, each requiring a different type of tool or method, to determine the extent to which the added value stream contributes to FALs' empowerment and to identify all forms of waste and all gaps that need to be addressed. The selected targeted operation should be decisive, transparent, and directly verified through site visits *("Go to Gemba")*, avoiding complete reliance on reports.

Senior leadership of the university must adopt *"Hoshin Kanri",* or targeted management, by identifying the strategic imperatives crucial for empowering FALs, focusing on fulfilling the highest-priority goals, and ensuring that efforts and operations align with these imperatives. Moreover, such commitments should reinforce the adoption of lean leadership thinking and skills that suit the new roles' nature, particularly relating to field presence at worksites, which allows for a stepwise awareness of problems during the implementation process. Senior leadership must select projects and initiatives, set priorities, and redraw policies, systems, and operations. Additionally, their role is essential as they support initial implementation and ensure that all administrative teams are familiar with their goals and contribute to achieving overall goals. This helps the university secure the support and participation of all workers regarding FALs' empowerment. This stage includes five steps.

Identify Values (Priorities)

The university should create a priority list of obstacles preventing the FALs' empowerment and the requirements for addressing these obstacles based on available scientific research findings (including the current study). Workshops can be held with stakeholders, internal surveys can be conducted, or a series of FGIs can be organized. Nonetheless, all should involve the concerned parties to identify problems, opportunities, and fields that require urgent and immediate action.

Create a VSM of the Current Status

After identifying values, it is crucial to create a VSM of the university's current status using visual illustration tools. This provides a clear and comprehensive picture and allows the university to compose a clear overview of the processes selected for assessment. Data related to resources, time, quality, and knowledge and information related to task nature and stream should be collected for the VSM. This step is essential to changing employees' convictions and allowing them to view current processes differently by focusing on value (i.e., by questioning why, how, and what if).

Analyze VSMs

In this step, value-added and non-value-added activities are identified; this includes activities that empower FALs and monitor waste in activities or processes. It also includes identifying obstacles and barriers to value streams and the reasons behind them, gaps that may affect leadership practices, and priorities and areas for improvement. The final step is to brainstorm ways to eliminate all forms of waste.

Create a VSM of the Target Status

In this step, VSMs are redrawn for the university's target status, thus allowing teams to visualize the value stream and the specific steps required to achieve it. At this stage, a just-in-

time system can be created so that resources and procedures are quantitatively and qualitatively consistent, timely, and in line with the requirements and needs of women in academic leadership roles. This is followed by designing an action plan to achieve the target status, beginning with the most urgent and impactful need. It is recommended that all relevant staff and gender stakeholders at all levels be involved for proper planning based on experience and practice to ensure that all necessary changes are implemented before standardization or future use of this practice.

Standardize and Expand the Scope of Work

The standardization of work is the process of developing the best way to execute a task and ensuring that everyone can accomplish it; individual knowledge and best practices should be transformed into explicit organizational knowledge, and a standardized and continuous approach should be created through sharing standards and best practices. To ensure successful standardization, this sharing of best practices can be initiated by a pilot project. Samples can be taken from relevant departments and entities, provided their scope can be expanded to other departments after the experiment's successful completion. Here, emphasis should be placed on vital operations that affect the empowerment of FALs.

Stage Three: Continuous Improvement

The process of continuous improvement should not be seen as an interim step of lean leadership. Instead, it should be adopted as an organizational culture and approach for all operations from its initial launch and through all employee levels within the university. Senior management should focus on building a continuous improvement attitude among employees, engaging them in improvement processes, and encouraging them to submit development suggestions. This can be achieved through various rewards packages. According to lean leadership principles, there are always opportunities for improvement, and no matter how good the implemented changes are, there are always new opportunities to explore. However, this also depends on adopting continuous improvement tools, such as Kaizen and Six Sigma, across all organizational levels for periodic and regular ongoing review and evaluation starting at early stages. This can be achieved through the participation of relevant team members in an open interactive dialogue, where they can exchange their experiences and expertise not only regarding processes and arrangements but also to promote vision, values, openness, ways of thinking, and ways to integrate lean leadership as a philosophy for solving everyday problems, making decisions, and consolidating processes according to best practices. Effective communication among different functional areas, achieved through periodic joint meetings, leads to knowledge sharing and more effective work. It also helps refine the decision-making process as it promotes accuracy, timeliness, convenience, reliability, and efficiency. However, compared to the first phase, wherein the lean management approach is applied and directed by top leadership, continuous improvement requires a more supportive and trained approach.

CONCLUSION

The main idea of a roadmap is to adopt an approach based on lean leadership principles and tools to unlock the university's added value by empowering FALs. Among its most prominent features is top leadership's commitment to empowering and qualifying FALs,

founding an organizational culture that encourages positive change, and establishing an administration that adopts the methodology of *"Gemba"* (i.e., the actual place). It requires the creation of a current status map (i.e., *"as is"*) followed by a map of the target state (i.e., *"what it should be"*) and developing a plan to bridge the gap between them. This plan should emphasize creating a culture of continuous improvement, halting processes when required to address problems and ensure quality; this also reduces waste from the first production stage. Finally, under this plan, management should ensure the consistency of efforts through established objectives.

The aim was to develop a roadmap to add value by empowering FALs in Saudi universities; however, the study was limited in terms studying academic leaders from only three public Saudi universities from Al-Kharj Governate, KSA. The study was also limited in the selection and application of the model which is restricted to the determination of three basic fields, namely, social, institutional, and personal which help in understanding the glass ceilings (fragile thinking) negatively affecting women's participation in high levels of decision-making in the academic setting. The results of the study may be generalized; however, they are based on the data gathered during a precise period of time, i.e., the academic year 2020/2021.

In summary, the proposed roadmap should be regarded as a guiding framework and not a comprehensive formula. It should be viewed as adjustable according to each university's requirements, capabilities, and priorities.

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