



## Advantages and Disadvantages of Adopting a Future Oriented Mindset in Healthcare Leadership Pertaining to Robotic Surgery

**Enas Al Alawi\***

*Department of Bariatric Surgery, Director of Evidence Based Medicine and Research Center, Novomed Medical Centres, Dubai, UAE*

**\*Corresponding Author:** Enas Al Alawi, Department of Bariatric Surgery, Director of Evidence Based Medicine and Research Center, Novomed Medical Centres, Dubai, UAE.

**DOI:** 10.31080/ASMS.2024.08.1734

**Received:** November 22, 2023

**Published:** December 27, 2023

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### Abstract

The demand and supply of robotic surgery is on the rise after proving superiority over the conventional techniques in providing more precision and better visualization, and ultimately resulting in better patient outcome. This technology has evolved dramatically over the past 40 years and serves to enhance the surgeon's skills and dexterity by using robotic arms with attached surgical instruments. The surgeon operates from a nearby console which eases the control of the instruments as well as filters out any glaring of light or even tremor movements in the surgeon's hands giving more enhanced precision. Robotic surgery is not limited to any surgical specialty but has many applications such as in; Urology, Gynecology, Pelvic floor Surgery, Orthopedics and several more, however currently it is limited to few healthcare organizations due to high cost and the need of staff training. With the expected rapid evolution in artificial intelligence along with the expected high demand and available supply, the future of robotic surgery is looking inevitable. Although it is not expected to replace human surgeons but it is expected to be available nationwide and every surgical facility. A future oriented mindset is crucial to foresee the challenges and have a plan of action ready in advance to face the limitations and difficulties. The mind set of looking far into the future can help research ways to further enhance this technology and make it safer and more cost effective, as well as user friendly and available to most surgeons to provide best care to most patients.

**Keywords:** Healthcare; Robotic Surgery; Gynecology

### Introduction

Future oriented leadership in healthcare is defined as the degree and ability to imagine the future and anticipate potential consequences whether positive or negative. The combination of optimism and positive expectations along with foreseeing difficulties and obstacles makes successful leaders who can plan and innovate solutions [3]. This assignment will discuss future focused leadership pertaining to robotic surgery which follows a linear interpretive pattern into the future with a straight line of rapid progression [9], in order to succeed in providing an efficient service, it has to be readily available, accessible and cost effective

with strong well trained teams and workforces. Difficulties and obstacles must be anticipated and foreseen starting with openness to new ideas and demands. Roadmaps and complete plans must be formulated taking into consideration all stakeholders including patients, healthcare professionals providing the service and the organization as a whole. This technology is rapidly gaining acceptance worldwide to the extent that it might soon overtake the surgical practice [8]. The advantages can be enhanced and limitations solved and eliminated by understanding the market demand and associated challenges with the implementation of the technology. A future-oriented mindset is an essential concept

to adopt, to be able to envision the associated challenges and limitations, and put solutions in place to tackle them. However, overthinking pre-emptively can lead to failures and unnecessary expenses with more difficulties, therefore, it is important to have a balanced and logical views. The stream of thought must be divided between external and internal environment of the concept [11]. External environment can be grouped under economy, marketing, public acceptance, surgeons' interests, and organizational belief in the technology [9]. Internal factors must include the manufacturing and engineering aspects and how to improve functionality and implementation. Then the application in different surgical fields must be considered with well-designed research designs to evaluate the benefits in all aspects. The literature is rich with publications and research data discussing different aspects and concepts of robotic surgery, however lacks well designed studies and accurate results [5]. Continuous research for developing the foresight into what's coming next is a crucial step for a successful future oriented leadership not only in the robotic surgery field but healthcare in general.

### Characteristics of future oriented leaders

With the rapid evolution of the robotics technology in healthcare comes the expansion in innovation and development. The demand and supply of robotic surgery is on the rise after proving superiority over the conventional techniques [9]. This technology has evolved dramatically over the past 40 years (see Appendix 1) and is continuing to evolve and develop. Successful leaders in the field of robotic surgery need to be future focused and ready for the demands and challenges which they will be facing. A future oriented mindset is crucial to foresee the challenges and have a plan of action ready in advance to face the limitations and difficulties. The mindset of looking far into the future can help develop ways to further enhance this technology and make it safer, more cost effective, more user friendly and available to most surgeons to provide best care to most patients. Since the future is unknown and unpredictable, successful leaders in healthcare must connect to the future by anticipating consequences and planning ahead with focusing on sustaining energy and building strong workforces. The ability to inspire and motivate their followers with high level of communications skills makes their powerful characteristics, along with being skilled at planning and setting goals, flexible to change and optimistic [11].

Future oriented leaders in the field of robotic surgery are strategic thinkers with a long-term vision, they help improve performance and productivity of their teams and the service they lead [6]. Envisioning the future helps to create an efficient workforce with clear values and missions [2], along with anticipating potential problems and considering alternatives which are feasible and cost effective. Future focused leaders in robotic surgery mostly adopt a transformational leadership style with the ability to build strategies that promote the success of the service, by understanding the gaps and opportunities within the external and internal environments [1]. This leadership style along with the ability to create strategic planning leads to efficiency and cost effectiveness. Typically, these leaders possess high levels communication skills and openness to new ideas and research [11].

Research can help in predicting the future and planning ahead, by studying the trends of the past and understanding the present can lead to mapping future patterns and anticipating problems with their potential solutions. A recently published study on digital therapeutics by Dang, Arora and Rane (2020) [3], discussed how this leadership behaviour in the field of robotics can also help to predict the timing when change is expected to take place along with addressing the type and level of analysis needed. Once the changes and timings are predicted, alternative solutions can be created and planned with the reconciliation of different future visions. This approach was addressed by Sohail Inayatulla 6 pillars of future studies and was discussed in module 6 lectures .

### Advantages of future oriented leadership

Future thinkers in robotic surgery realize that the future is unpredictable, however are strong and courageous enough to go through the unknown to be able to innovate and create growth. As leaders, they need to be emotionally intelligent and accept fear, highly motivated and enthusiastic to be able to turn uncertainty into possibilities and potentials [11]. Early recognition of an opportunity can save time and resources benefiting individuals and organizations. Future thinkers have higher job satisfaction which leads to better staff retention and therefore organizational gain, which can reflect on the quality and safety of patient care. The positive forward going momentum encourages the team and the followers to grow and develop. The charisma and the enthusiasm of these leaders help them to envision what's coming and formulate

plans ready to be implemented. Leaders with future imagination are flexible and adaptable to change, they have the ability of effective communication which leads to team empowerment and motivation. This includes stimulating the followers to be creative and have critical thinking.

In the field of robotic surgery there are potential improvements and considerations which are expected to arise in the future from the point of view of employees, patients and organizations perspective. Increased workflow due to increased demand necessitates operational changes and introduction of new pathways and procedures, including scheduling and safety check-lists. These operational measures can enhance and improve efficiency, patient safety and workflow [12]. Staff frustration induced by using a new technology can cause stress and burnout which can be helped and reduced by a good team work and communication [1]. Well-structured staff training and education leads to their empowerment and confidence. Technical support services must be available to tackle system failure and equipment malfunction to avoid time wastage and surgeon fatigue (Moawad., *et al.* 2020). These measures can help healthcare organizations to plan and prepare to employ robotic surgery safely and effectively. To sum up, the main characteristics of future thinkers in this field include effective communication, inspiration of a shared vision, creating an environment of team spirit and getting every member involved efficiently.

Openness to new ideas, learn from mistakes, and support positive change are the key traits of successful future focused leaders to enhance the efficiency of robotic surgery [11].

Several obstacles stand in the way of future focused leaders in robotic surgery such as lack of efficiency mainly due to longer procedural time and high cost [11]. Technological limitations and procedural complexity are obstacles which form barriers in adopting this technology in different surgical fields and therefore limiting its availability for many patients. This poses a doubt into what the future might bring in terms of disruption and complications. Planning for staff training, cost control and improve clinical outcomes with a focus on potential future opportunities and complications is necessary. Leaders must develop a clear perspective on the market growth and anticipate possible disruptions with a clear vision, along with flexibility and adaptability to industry changes.

### Disadvantages of future oriented leadership

Despite the many advantages of Future focused leaders are highly motivated and drive change and innovation forward, although desirable, however, this behaviour may be associated with the risk of creating unrealistic expectations that are difficult to achieve. With their energy and enthusiasm, they can overlook the reality leading to drawbacks and barriers rather than success [4], being unidirectional in their approach and the urge to plan for the future they may not pay attention to present issues and miss solving current problems. This may lead to wastage of time, resources and staff energy, which can adversely affect their motivation. Another problem is the complexity of future planning in terms of planning for the unpredictable, makes handover and continuity of leadership challenging leading to failure of the service and the organization [10]. Leaders with future oriented mindset are eager to achieve goals and are too focused on meeting high expectations, although positive attitudes but can cause emotional fatigue and burnout [1], on the contrary this behaviour may lead to manipulation, exploitation and potential abuse of power. High level of emotional intelligence is needed to help create a balance [11].

Other documented disadvantages to this style of leadership is lack of focus due to being distracted with the leadership tasks and missing the main goals [11], this in turn leads to another pitfall which is disruption of routine [7]. Future focused leaders can go wrong by getting distracted and introducing too many changes at once and hence getting deviated from the normal routine work leading to failure. Leaders with this style of leadership are usually highly influential and lead by example as well as being highly respected by followers makes it difficult for staff to raise any concerns or to even notice faults or mistakes [12], therefore constant and regular communication is needed between leaders and followers which can be tiring and time consuming. Another pitfall future leaders may face is favouritism, because they spend a long time with their team members, they can develop more rapport with the active articulate members, leaving the quiet and shy ones out leading to defective staff development and causing conflict [11]. The literature mentions exaggerated disagreement amongst the team as a disadvantage to future focused leadership, when the whole team shares same goals and working together closely, this may exaggerate any disagreement regardless of how minor it may be [12]. Allowing employees freedom of expression and speaking their thoughts might make disagreements more manageable.

In robotic surgery, the cost is too high compared to conventional or laparoscopic surgery which causes healthcare organizations to overlook the benefits and delay starting the service. Not only cost but space, infrastructure and staffing are challenges to be faced. Leaders and followers may be too focused on the vision and overlook addressing the logistics of achieving the goals leading to disruption and failure [7]. Any failure or mistake can lead to organizational disrepute and lose of public trust in the service and the healthcare system as a whole. Recently in 2019, there was a document published by the FDA as a warning for patients and providers alerting them that the long-term survival benefits of this technology have not been clearly established yet due to lack of evidence regarding effectiveness and safety as compared to the conventional methods, in fact there is a high-level evidence that robotic surgery is associated with higher recurrence rate of cancers specifically those of the uterus [6]. This is a challenge, leaders in robotic surgery have to face and need to put future plans to regain the public trust in this technology.

## Conclusion

Healthcare leaders with a future oriented mindset learn from the past and understand the current situation to create a roadmap for innovation which can guide planning for the unknown future. Strategic foresight prepares them to anticipate changes and potential problems, and have plans ready for action, as well as foresee new opportunities and recognize gaps. The flexibility and acceptance of new ideas lead to innovation and further research. The implementation of new ideas reflects strong and competent leadership driven by the belief that the future may have different possible outcomes which can be influenced by the leader's behaviour and qualities. As positive as future oriented leadership in healthcare is, it can have downfalls and draw backs if not approached correctly. This can lead to organizational disrepute, financial lose and worse patients outcome. A logical and balanced future orientation is the key to success. In terms of robotic surgery, with the increasing application of artificial intelligence in healthcare, this technology will be more in demand with the possibility of overtaking most of the surgical field, solving current issues and innovating solutions for future issues must be carefully considered. In the whole medical literature, no evidence was found to guarantee safety and effectiveness, certainly no studies were found on long term survival benefits compared to the conventional

ways. However, the demand and the evolution is increasing. With a future, oriented mindset, draw backs, limitations and risks can be anticipated and potential solutions put in place, with the ultimate aim in providing high quality and yet cost effective patient care. Healthcare providers and leaders must be ready to face the demand and the challenges of this technology.

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