

Pharma Digitalisation: Risks and Opportunities

Gianluca Muscat, Maresca Attard Pizzuto, Lilian M. Azzopardi

Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta
email: gianluca.muscat.20@um.edu.mt

INTRODUCTION

Digitalisation is an arduous task and risk factors like information technology security are concerns, but digital transformation offers an explicit opportunity to gain competitive advantage. Digitalisation in the pharmaceutical industry involves the introduction of robotics, and computerisation which allow for a more efficient and cost-effective opportunity throughout all pharmaceutical sectors including clinical pharmacies, community pharmacies and the industry.

AIMS

The aims are to assess the risks and opportunities of pharma digitalisation ecosystems.

METHOD

Phase I An extensive literature review is undertaken to determine the risks and opportunities of pharma digitalisation.

Phase II Interviews with physicians, pharmacists in patient care settings, quality assurance officers from pharmaceutical companies, regulatory affairs officers and medicine procurement officers are conducted to evaluate the pros and cons of pharma digitalisation from a stakeholder perspective.

Phase III A focus group comprising of different stakeholders is set-up to quantify risks onto a 5x5 risk matrix, taking into account the probability of events occurring and severity of consequences.

RESULTS

Interviews with stakeholders sought to gain perspective of the risks and opportunities of pharma digitalisation.

Risks include:

- i) capital cost,
- ii) lack of digital expertise and
- iii) opposition from employees.

Opportunities include:

- i) pharmaceutical manufacturing intelligence, for example, continuous and automated manufacturing,
- ii) software controlled packaging and
- iii) integrated supply chain allowing for traceability.

Risks are measured on a 5x5 risk matrix (Figure 1) where severity increases from left to right and probability increases from bottom to top.

		Impact How severe would the outcomes be if the risk occurred?				
		Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
Probability What is the probability the risk will happen?	5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
	4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
	3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
	2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
	1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

Figure 1: 5x5 Risk Matrix Template (Adopted from: www.safetyculture.com)

CONCLUSION

With the face of healthcare constantly changing, the identification of opportunities and risks of pharma digitalisation helps in accurate planning to provide a better care experience for the patient.