



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

An Economic analysis of digitalized and standardized workflows

within the Operating room

Cumulative PhD - Content

Submitted by:	Christian von Schudnat Universitat Politecnica de Valencia, cvonsch@doctor.upv.es
----------------------	---

Supervisors:	Prof. Dr. Jose Albors-Garrigos Universitat Politecnica de Valencia, jalbors@omp.upv.es
	Prof. Dr. Maria de Miguel Molina Universitat Politecnica de Valencia, mademi@omp.upv.es
	Prof. Dr. Klaus-Peter Schoeneberg Berliner Hochschule für Technik, Klaus-Peter.Schoeneberg@bht-berlin.de

Date:	December 2023
--------------	---------------



Content

1	Abstract	2
2	Acknowledgement	5
3	Introduction	7
4	Methodology	8
5	Articles	9
5.1	<i>Article: Marketing-Controlling in Unternehmen der Medizintechnik</i>	9
5.2	<i>Article 2: The economic impact of standardization and digitalization in the operating room: a systematic literature review</i>	33
5.3	<i>Article 3: Impact of a digitized workflow for knee endoprosthesis implantations on hospital specific ratios</i> ... 56	
5.4	<i>Article 4: Qualitative and Economic impact of standardized and digitalized Operation Room Processes in Obesity Surgery</i>	79
6	Discussion	99
7	Conclusion	101
8	References	102