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## Successful IS/IT projects in Healthcare: Pretesting a questionnaire

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### Abstract

Over the last decade, health systems have faced growing challenges, due mainly to population-ageing and an increase of chronic diseases, which lead to a significant rise in costs and difficulties in accessing healthcare. Countries have made a huge effort that has mainly consisted in significant increase in health financing the expansion of health services facilities, the adoption of new information systems and technology (IS/IT), improving access to medicines, and continued endeavours to enhance organizational management and the sustainability of healthcare services. IS/IT will undoubtedly represent an important tool for providing adequate answers to all these challenges and these systems have the potential to reduce healthcare costs, as well as to improve outcomes. The recognition of project management and maturity models has been evidenced over the last years by the large investments made by health organizations to develop competencies and skills. This paper proposes a new approach, which assumes that project management will mediate the relationship between organisational maturity and the success of IS/IT projects. The questionnaire developed for this research was pre-tested. The advantages of this procedure are discussed in detail. The results allowed for a more reliable definition of the three scales that support the analytical model.

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## 1. Introduction

The ageing population and the growth of related health problems nowadays require particular attention and greater care<sup>1</sup>. The demand of professionals, managers, policy-makers and the public in general for more reliable and accurate information puts pressure on national budgets to their limits<sup>2</sup>. On the other hand, public policies appear to systematically fail users' expectations<sup>3</sup>. IS/IT in healthcare play a central role in modern societies, helping managed the costs and improving healthcare<sup>4</sup>. The introduction of IS/IT in organizations offers health professionals great opportunities to enhance the efficiency and effectiveness of care<sup>5</sup>. Several studies have shown that users want more and better information, in order to decide about their own health and their families<sup>6</sup>. The new challenges that face the public health sector required dramatic changes and improvements in internal procedures, which lead health organisations to investment largely in IS/IT, with a huge spending of public financial resources. The health sector has experienced a significant shift in the use of IS/IT systems, especially the internet, remote health monitoring, online consultation, e-prescriptions, e-clinic, and patients' information access. To overcome paper-based medical records that are easily misplaced and can cause serious problems, such as the need for repeated diagnostic tests or delays in the planning of care, hospitals have started to use IS/IT to facilitate the process of patient care through the generation of electronic health records<sup>7</sup>. These systems were designed to support clinicians in accessing and working with a variety of patient information<sup>8</sup> and for enhancing health care quality by coordinating information sharing<sup>9</sup>. Real-time access and the exchange and receipt of data provide by IS/IT have improved clinical requests, have reduced the duplication of care services, and have supported better decision making related to patient care<sup>10</sup>. The use of IS/IT in health care aims to help professionals' day-to-day activities, increasing their efficiency, supporting specialised services, incrementing quality, and also reducing medical errors<sup>11</sup>. This study aims to investigate whether health institutions' maturity has a positive influence on the success of IS/IT projects implementation, and whether the application of management practices mediates this relationship. The research is based on the collection of healthcare professionals' perceptions through a national survey.

## 2. Literature Review

The increasing changes in technology and business environment changes has meant that greater demands are required from traditional management models, which have difficulties in providing adequate answer to stakeholders' expectations. IS/IT have been recognized over last decade as being an important factor for the achievement of the objectives of access, efficiency, effectiveness and transparency<sup>12</sup>. Remarkable progress has been made in the field of medicine, as well in information technology<sup>13,14</sup>, due to their impact on health care organizations, as well as the potential advancement of hospital information systems<sup>15</sup>. Project management has been developed to be able to meet these challenges<sup>16</sup>. The practices and techniques of project management are recognised as being essential skills which benefit organisations<sup>17</sup>. Traditionally, project management success has focussed on the development of the process dimension of time, cost and quality<sup>18</sup>. Further research has found that the achievement of these requirements was not sufficient for measuring project success and it evaluated other dimensions, such as; service or product quality and/or stakeholder satisfaction<sup>19</sup>. Organisations have adopted project management and maturity models approaches to enhance projects' performance<sup>20,21,22</sup>. The approach of maturity models has become an important tool for the management of both internal and external capacities, which describe organization development overtime<sup>23</sup>. Over the past few decades, the maturity models approach has been developed and applied in diverse sectors and industries, including healthcare<sup>24</sup>. According to Farrokh and Mansur<sup>25</sup>, some important benefits are recognized to mature organizations: managing projects effectively<sup>26</sup>; continuously improve project performance<sup>27</sup>; the ability for managing projects based on standards<sup>28,29</sup>; Tailoring the project management processes to meet the specific needs of individual projects<sup>28,29</sup>; enable the organization to advance its strategic objectives through the application of principles and project management practices<sup>28,30,31</sup>. The success or failure of a project is perceived differently by different stakeholders of the project<sup>32,33,34</sup>. The understanding of the concept of project success has evolved over recent decades, and a gradual understanding is now emerging that project success requires a broader and more comprehensive definition<sup>34,35</sup>. Several stages were identified for the evolution of project success, namely<sup>36</sup>: the triple constraint method; the stakeholder's satisfaction dimension, the organisation specific strategic view, and finally; the strategically-oriented view in responding to increasing globalization. Regarding the success of the initiatives in

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