

Facing the Challenges Posed by Aging Information Systems

Information systems are a prerequisite to doing business nowadays. My studies in Business Information Systems Management offered by Middlesex Malta, has exposed me to a wide range of topics that are essential for any business to become a digital business. Going digital is no longer simply an extra sales channel but, a necessity for survival in some cases, as shown by the Covid-19 pandemic. From dealing with the online legal landscape to ensuring product quality, this master has provided an indispensable insight into the holistic approach needed to be successful and competitive online. The mixed theoretical and use of real-world scenarios in lectures gave the course content further applicability that allowed me to understand and apply methodologies directly to the workplace. Each module went into detail regarding the best practices used by industry and explored the considerations that need to be made depending on an organisation's aims and skill set. It was interesting to delve into how to create an effective strategy for implementing an information system and then maintaining its quality to the end-user, through methodologies like SCRUM. The course also explored how to manage and foster intellectual property and how such knowledge can be shared within an organisation to continuously evolve a product. The content was up to date and discussions in class were insightful regarding the challenges faced by different industries and roles.

For my dissertation, I focused on the use of IS (information systems) by small organisations. The certainty is that some of these systems used by SMEs are getting old and have now been in place for several decades. This results in them becoming more of a threat to the organisations rather than the business advantage they had been presented as throughout the years. The reality is that legacy information systems take up a large portion of an organisations information technology budget and resources whilst often limiting an organisation's flexibility and ability to innovate. While there has been extensive research on how organisations adapt and operate information systems, the same cannot be said for how and why organisations discontinue their legacy information systems. We do not know how such a decision is made or how one may replicate it, especially when these systems involve interdependencies between various components. This decision is especially critical given that not all managerial stakeholders are equipped to perform such a decision, like those in small organisations or SMEs. Seeing the need for research aimed at helping and partially automating this decision-making process, I set out to create a proof-of-concept. Based on models and constructs defined in the literature and originating from real scenarios, my dissertation demonstrated that a decision support system can be utilised to help with the discontinuation dilemma, using a machine learning model. The model was trained to predict discontinuation outcomes based on a respondent's situation using synthetic data. The results obtained are promising, showing that it is possible to accurately predict an ideal outcome for discontinuation.

Undoubtedly, these studies have continued to grow my capability to provide software products that are more akin to customer needs, whilst ensuring this is done in a manner that can be grown upon to create a more complex and thorough product for customers. With what I have learnt, I will be more capable of aiding organisations to undertake larger projects and manage sustainably their growth into overseas markets showcasing Malta's excellence in software solutions. Thanks to these studies, I was able to observe the potential in implementing emerging technology like machine

learning first-hand and see applications for aiding SMEs to grow and compete on the international stage.

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