SUMMARY

Industrial sustainability compliance is under scrutiny in public debates. This has increased the pressure to improve performance that, in turn, demands systematic changes in operations and the allocation of considerable resources. Company size plays a decisive role as to whether the changes required to become more sustainable are prioritised. 90% of industries are SMEs. This presents constraints, such as a lack of information, limited resources and insufficient strategies to support the transition towards sustainable production. The textile industry is no exception; it occupies a prominent place for its importance in the world economy. Its impacts range widely and are associated with the high consumption of natural resources and considerable waste generated. These are compounded by the severe social problems associated with poor working conditions.

These reasons, aligned with the global call to achieve the SDGs, mean this research set out to support textile manufacturing enterprises, particularly SMEs, to adopt more sustainable production methods by developing a methodology to assess sustainability performance. This methodology starts by diagnosing a company's current sustainable performance and evaluate the current level of integration of good practices. Thereby, it helps identify gaps and opportunity areas through which to autonomously generate continuous improvement strategies. Thus, the main research question of this thesis is: *How can a methodological framework be designed in order to support textile manufacturing companies transitioning to sustainable production patterns?*

To develop this framework, deskwork was carried out to identify the main applicable international frameworks (Chapter 2) and to detect the issues in the textile sector (Chapter 3). Subsequently, fieldwork (Chapter 4) was conducted through visits to textile manufacturing industries. Once the main issues were clear, key indicators were selected based on international frameworks and the Life Cycle Assessment approach. At the same time, learning methodologies to recognise areas of opportunity and to establish improvement strategies to support knowledge development were incorporated. A scoring system was developed to evaluate these indicators (Chapter 5). The resulting methodological framework was named SATIN (Sustainability Assessment of Textile Industry) and translated into a web-based application for easy access and data entry. Subsequently, feedback was obtained from sixty sector experts that included practitioners, professionals and academics who tested and evaluated SATIN (Chapter 6).

SATIN's objective is to guide textile companies in integrating sustainability schemes into their organisational culture. This helps create interconnection and a balance between environmental, social, economic and business management aspects. This is achieved through key indicators and systematic data collection to support the decision-making processes. SATIN was designed to bridge the gaps between theory and practice in sustainability by plugging the gaps with suitable strategies offered by free access tools that support the learning process.

The testing and evaluation by practitioners (Chapter 6) concluded that SATIN, to a large extent, can support the transition of textile manufacturing companies to more sustainable production patterns (Chapters 7 and 8). One of SATIN's identified benefits is simple guidance using key indicators to improve performance, recognise hotspots and develop self-reflexive skills to deploy improvement actions.

The main contribution of this research to theory is the stepwise development of a methodology that evaluates sustainability performance by integrating learning methodologies to encourage self-reflection and training.

The main contribution to the practice is by providing simple access to a scientifically robust tool that can make sustainability operational by developing tailor-made strategies based on systematic measurement and data analysis. SATIN facilitates standardisation, contributes to reducing impacts and promotes sustainable production holistically. Besides, it encourages stakeholders' inclusion, transparency and traceability through the supply chain.

SATIN was not designed for a broader application, other than for manufacturing companies. Future research opportunities to integrate brands and retailers through the supply chain approach are foreseen. Additionally, the framework is relevant to generate data to increase the options for fibres and textile processes that can be made easily available in the tool.

This research emphasises the need to measure the textile industry's sustainability performance by systematically collecting data to compare progress. It highlights the need to develop strategies or roadmaps to guide companies when they seek to integrate sustainability outcomes into their schemes.