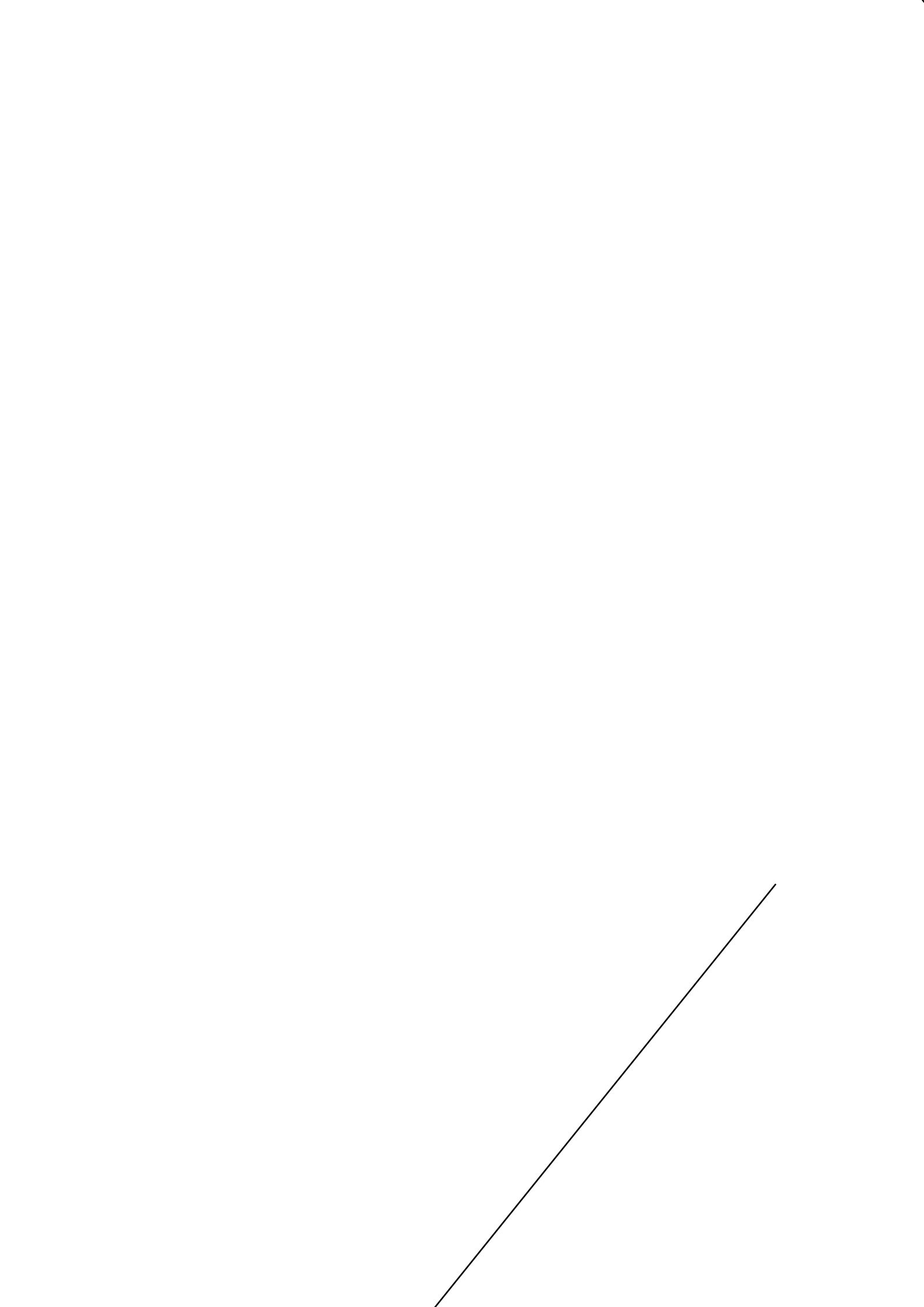
CAPTURIN

LOFT

Capturing Loft: Adding value to New Zealand wool bedding products through textile design innovation

An Exegesis in Partial Fulfilment towards a Master of Design

By Kelly Rimkeit Olatunji
Massey University



// ABSTRACT

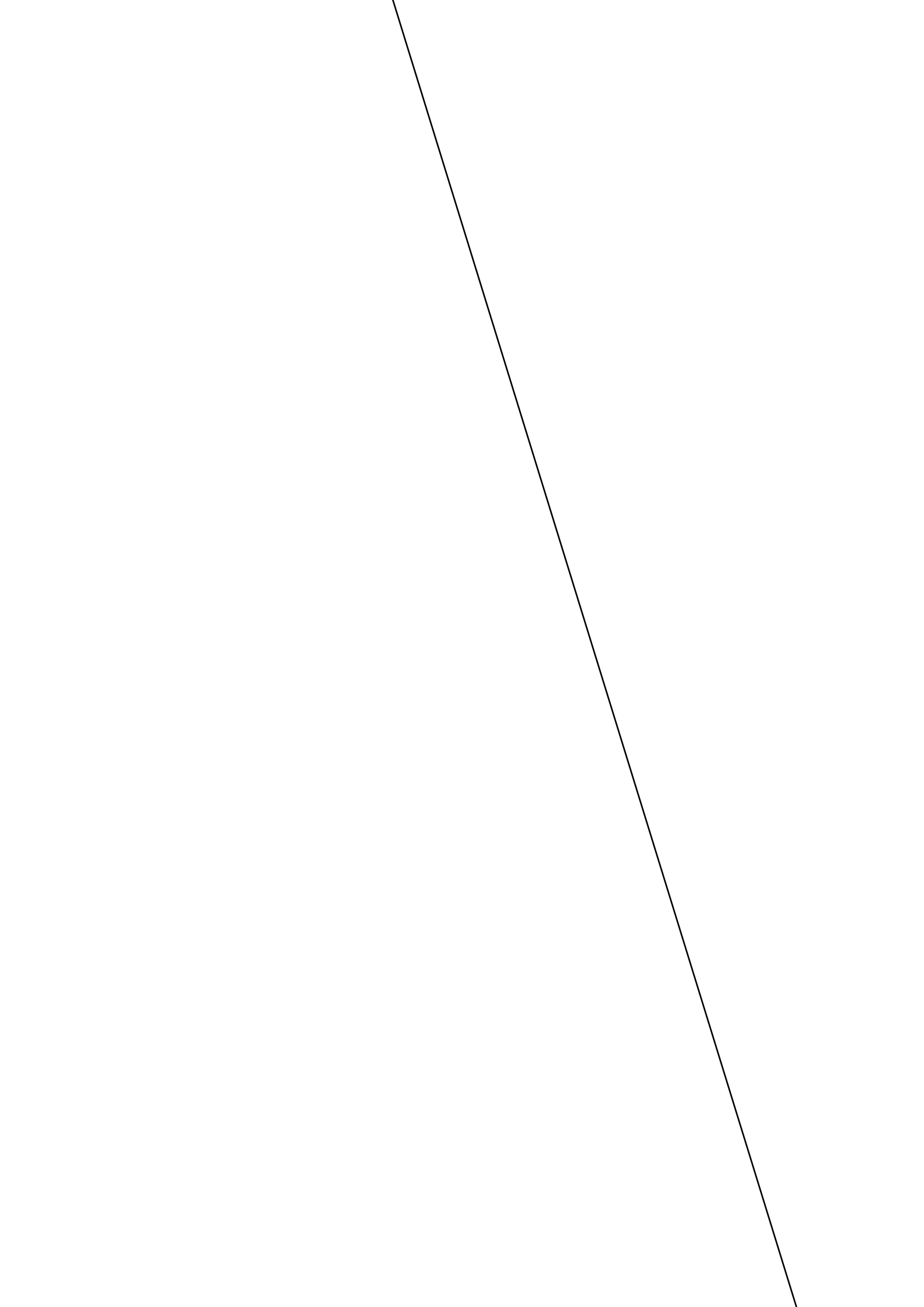
This design-led research project was developed in collaboration with the Christchurch-based bedding manufacturing firm FibreTech New Zealand Limited. It explored the potential of an innovative wool-fill product developed by FibreTech. This new wool-fill maximises loft and bulk, both key factors for warmth and comfort in bedding. Loft is an active, three-dimensional feature of bedding, controlled through processes of compression and release. Retaining and managing loft was vital.

The designer provided a holistic approach, using a textile design perspective to explore functionality and aesthetics in relation to the structure of the fill and outer membrane layers of bedding products. Through material sampling the project assessed how FibreTech's new wool product could be layered and bonded with other textiles. The technical processes of needle punching, fusing and stitch bonding were used to explore the loft

Using the existing manufacturing process of digital quilting, stitch paths were redesigned to create an innovative range of bedding products for use over and under the body. The resulting textiles revealed a departure from classic bedding construction, with a new focus on controlling the stitch line through computer-aided design (CAD) technology. This hard-edged stitch line was a digital imposition that contrasted with the organic nature of soft, lofted materials. This visual and haptic tension was identified as key design interplay for both overbody and underbody approaches. Strategies were created towards lightweight overbody bedding and engineered shaping of underbody bedding. These new digital quilting strategies captured loft in distinctly different, yet functional ways.

This project provides evidence that a textile designer can be a key contributor in the manufacturing industry, along with other disciplines such as science and engineering to add value to

Kelly Rimkeit Olatunji
06005535
Supervisors: Dr Sandra Heffernan and Dr Jessica Payne
Industry Supervisor: Peter Sheldon, Executive Director, FibreTech NZ Ltd.
Callaghan Innovation Fellow 2013–2014



// ACKNOWLEDGEMENTS

I wish to thank my supervisors Sandy Heffernan and Jess Payne for support and mentoring throughout this project; Industry mentor Peter Sheldon for your enthusiasm and collaborative support; Jack Grigg for your co-operation and generous sharing of knowledge; FibreTech staff Sharon, Jean and Diane for your encouragement when on the busy factory floor; Janet Webster for expertise in textile science; Julieanna Preston for being a keen listener and finally, Ewan, Mum and the 2013/2014 Masters of Design cohort for patience, laughs and a listening ear.

Callaghan Innovation/MBIE has provided funding for this project.

Thank you.

// TABLE OF CONTENTS