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Implementing Lean in a seasonal horticultural sector: Theoretical and practical suitability in the NZ pipfruit industry.

A thesis presented in partial fulfilment of the requirements for the degree of

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Abstract

The New Zealand (NZ) pipfruit industry has recently set an ambitious target of more than doubling its export by 2022. However the industry has not performed very well in the past ten years with many growers averaging substantial losses. One key government action has been to deploy Lean thinking to improve production performance. The New Zealand pipfruit industry has not taken up this opportunity for unknown reasons. One reason may be that it is not known if the Lean paradigm will suit this seasonal industry which has a large manual labour component but pushes product into market, contrary to Lean principles.

Although Lean has been successfully implemented in a number of industries, there is little information about implementation in a horticultural context. Lean was not designed for pipfruit. The aim of this study is to research the concept of Lean and its theoretical ‘fit’ and practical applicability in a horticultural setting, specifically the New Zealand pipfruit industry.

A complex of methodologies integrates to find the answer. The literature review discusses transferability of common theoretical Lean themes to other industries. Consultants are interviewed to assess their views on the suitability of Lean for the pipfruit industry, while an industry-wide survey determines the current state of knowledge and Lean deployment within the industry, using a unique ‘single-question-per-day’ approach. Several case studies and action research studies then obtain rich data from organisations that have started with Lean implementation in recent times.

The inquiry demonstrates that Lean has many transferable elements and that the industry as a whole is not currently considered Lean. Data from action research and case studies demonstrate that Lean is largely applicable—leading to a measurable increase of Lean—supported by some positive financial indicators. The inquiry culminates in the development of a model and framework that can be applied in the future. In addition, orchards delivered some original interpretations of waste and developed a Lean assessment tool.

The inquiry edified that Lean substantially fits the different elements of the NZ pipfruit industry. This paper contributes to fill the gap in knowledge about Lean in a horticultural environment.
Acknowledgements

This project was something that was on my mind; it had to be done by somebody. I ended up doing it—but only after considerable thought about the commitment required and the sacrifices to be made by family and friends. I took this step as ‘mature student’ out of curiosity and with an intent to make a difference, knowing that I had a lot of support. This support came from many corners and this page serves to acknowledge that support, never truly being able to do justice to it.

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Table of Contents

Abstract .................................................................................................................................. 3
Acknowledgements .................................................................................................................. 4
Table of Contents ...................................................................................................................... 5
List of Figures ............................................................................................................................ 10
List of Tables ............................................................................................................................. 14
1. Introduction ........................................................................................................................... 16
   1.1. Growing world population; growth targets set by government and industry ........... 16
   1.2. The New Zealand pipfruit industry ............................................................................ 17
   1.3. NZ Government’s response to support export growth - Lean ............................... 18
   1.4. Lean production and its transferability ..................................................................... 19
   1.5. The problem ................................................................................................................ 19
   1.6. Researcher position within the industry ................................................................... 20
   1.7. Aim of this inquiry ...................................................................................................... 20
   1.8. Approach .................................................................................................................... 21
2. Background and Literature Review ....................................................................................... 23
   2.1. Introduction to the literature review .......................................................................... 23
   2.2. The NZ pipfruit industry and its processes ............................................................... 24
      2.2.1. Brief history of the NZ pipfruit industry ............................................................. 25
      2.2.2. Effects of deregulation on industry workings ...................................................... 26
      2.2.3. Economic hardship in years following deregulation and sustainability .......... 27
      2.2.4. Current position of the industry, nationally and internationally ....................... 28
      2.2.5. NZTE approach to introduce Lean to improve the industry’s position ............ 29
      2.2.6. Pipfruit industry internal supply chain current state .......................................... 30
      2.2.7. Main attributes of the fruit, affecting supply to the customer ............................. 34
      2.2.8. Seasonal ‘push’ of the industry ......................................................................... 36
      2.2.9. Market access constraints .................................................................................. 37
      2.2.10. The role of people and leadership .................................................................... 38
      2.2.11. The role of science and technology ................................................................. 39
      2.2.12. Industry processes ............................................................................................. 41
      2.2.13. Summary of key characteristics of the NZ pipfruit industry ......................... 42
   2.3. Lean .................................................................................................................................. 43
      2.3.1. Enhancing productivity: Historical approaches, methods and techniques ......... 43
      2.3.2. Antecedents to the Lean paradigm .................................................................... 50
      2.3.3. Emergence of the Lean paradigm .................................................................... 54
3.9.2. Available population, sample selection and data collection .................................................. 145
3.9.3. The overall research design ................................................................................................. 146
3.9.4. Issues of trustworthiness: Reliability and validity .............................................................. 148
3.9.5. Reliability ............................................................................................................................. 149
3.9.6. Validity .................................................................................................................................. 149

3.10. Ethical considerations ............................................................................................................ 152
3.11. Chapter conclusion ................................................................................................................ 152

4. Results ........................................................................................................................................ 154
4.1. Introduction to results ................................................................................................................ 154
4.2. Findings from literature review and the first objective ........................................................... 154
4.3. Findings from reflective practitioner review ............................................................................ 155
  4.3.1. The need for a reflective practitioner review ....................................................................... 155
  4.3.2. Reflective practitioner review synopsis ............................................................................ 155
4.4. Findings from consultant interviews and the second objective ............................................. 157
  4.4.1. Consultant response rate ................................................................................................... 157
  4.4.2. Consultant responses ......................................................................................................... 157
  4.4.3. Consultant synopsis .......................................................................................................... 161
4.5. Findings from stakeholder survey and the second objective ................................................ 162
  4.5.1. Stakeholder response rate .................................................................................................. 162
  4.5.2. Stakeholder responses ........................................................................................................ 162
  4.5.3. Stakeholder survey synopsis ............................................................................................. 166
  4.5.4. Findings from action research and the third objective ...................................................... 166
  4.5.5. Guideline for reading the graphs in the results section ...................................................... 166
  4.5.6. Action research orchards ................................................................................................... 167
  4.5.7. Action research packhouse ................................................................................................ 183
  4.5.8. Action Research Lean Pipfruit Cluster ............................................................................ 191
  4.5.9. Action research summary results supporting objectives .................................................. 194
4.6. Findings from case studies and the third objective ................................................................. 194
  4.6.1. Packhouse with Lean champion (CSP) ............................................................................ 194
  4.6.2. Packhouse with Lean consultant (CSPC) .......................................................................... 202
  4.6.3. Exporter 1 ......................................................................................................................... 209
  4.6.4. Exporter 2 ......................................................................................................................... 211
  4.6.5. Interviews with stakeholders in kiwifruit and wine ............................................................ 213
  4.6.6. Case study summary results supporting objectives ........................................................... 214
4.7. Chapter conclusion .................................................................................................................. 215

5. Analysis and Discussion .............................................................................................................. 216
5.1. Introduction to analysis and discussion ................................................................................... 216
5.2. Objective 1: Transferable common theoretical themes ........................................................... 216
  5.2.1. Common themes: Historical development in literature review ......................................... 217
  5.2.2. Common themes across industries in literature review .................................................... 218
  5.2.3. Common themes: The view by consultants ...................................................................... 220
7.3. Limitations .............................................................................................................. 272
7.4. Originality and contribution .................................................................................... 273
7.5. Recommendations for the industry .......................................................................... 274
7.6. Contribution to practice: The Lean apple tree .......................................................... 275
  7.6.1. Growing Lean from a seed or graft .................................................................... 278
  7.6.2. Originality of the model .................................................................................... 279
  7.6.3. The implementation approach of the framework ................................................. 279
7.7. Future research ........................................................................................................ 281
7.8. A final word ............................................................................................................ 282
8. References: .................................................................................................................. 283
9. Appendices: .................................................................................................................. 307
  Appendix 1: Reflective practitioner industry review ..................................................... 308
  Appendix 2: Pipfruit Varieties (apples, pears, nashi) .................................................... 321
  Appendix 3: Export variety -by size -by country example............................................ 322
  Appendix 4: 20 Kobayashi keys in relationship diagram (from Kobayashi, 1995) .......... 323
  Appendix 5: Lean Consultants ..................................................................................... 324
  Appendix 6: Announcement of Lean industry study and request for volunteers .......... 325
  Appendix 7: Pipfruit industry stakeholder questionnaire .............................................. 326
  Appendix 8: Consultant semi-structured interview guideline ....................................... 333
  Appendix 9: Protocol for case study with partial applicability to action research ......... 334
  Appendix 10: Pipruit NZ statistical annual data for orchards and packhouses 2012 ....... 344
  Appendix 11: ARO: Pruning procedure and visual aid example .................................... 347
  Appendix 13: Pipfruit Lean Cluster Summary ............................................................... 352
  Appendix 14: Pipfruit Lean Cluster Summary Feedback example (Sic.) ....................... 353
  Appendix 15: Future State Lean Activity Planner ......................................................... 355
  Appendix 16: ARP exercise in identifying waste .............................................................. 368
  Appendix 17: Concerning the originality of the Lean apple tree model ....................... 369
Lists of figures and tables on the following pages are numbered as follows: The chapter number precedes the chronological number of the figure or table in that chapter, for instance figure 2-7 is the seventh figure in chapter 2.

### List of Figures

**FIGURE 1-1:** RELATIVE POPULATION AND EXPORT GROWTH PROJECTIONS WITH END-DATE TAKEN AS 100%.................................................................................................................. 17

**FIGURE 1-2:** PIPFRUIT SECTOR PROFIT BEFORE TAX, 2007-2011 (SOURCE MAF HORTICULTURE MONITORING REPORT 2011 – PIPFRUIT SECTION). ....................................................... 18

**FIGURE 2-1:** PRIMARY STAKEHOLDER SUMMARY PROCESS .............................................................................................................................................. 24

**FIGURE 2-2:** RELATIVE INCREASE/DECREASE IN STAKEHOLDERS SINCE 2000 IN RELATION TO PRODUCTION .................................................................................................................. 26

**FIGURE 2-3:** RESPECTIVE OPERATOR TASKS BY CHRONOLOGICAL ORDER (FOCUS GROUP REVIEWED). .31

**FIGURE 2-4:** PIPFRUIT ACTUAL SUPPLY CHAIN EXAMPLE (FROM DOEVENDANS AND ROSS, 2011). ...................................................... 32

**FIGURE 2-5:** PIPFRUIT PRODUCT, SERVICE AND MONEY FLOWS (DOEVENDANS, 2010). ......................................................................................... 33

**FIGURE 2-6:** SAMPLE FRUIT DISTRIBUTION BY COUNT/SIZE (FOCUS GROUP REVIEWED). .......................................................... 35

**FIGURE 2-7:** 'DISASSEMBLY' AND 'ASSEMBLY' IN PACKHOUSE (FOCUS GROUP REVIEWED). .......................................................... 36

**FIGURE 2-8:** PUSH AND PULL ELEMENTS RELATED TO RAW MATERIALS AND CUSTOMER ........................................................................... 37

**FIGURE 2-9:** DEVELOPMENT OF LABOUR ACTIVITY TRENDS DURING THE LAST CENTURY (ADAPTED FROM PERIGORD, 1990). ...................................................... 38

**FIGURE 2-10:** LEAN? CLOSE MACHINE PLACING AND FLOW CONCEPT AT HIGHLAND PARK (SOURCE: ARNOLD AND FAUROTE, 1915, P39). ........................................................................ 52


**FIGURE 2-12:** TOYOTA’S 4P MODEL (LIKER, 2004) ................................................................................................................................................................................. 60

**FIGURE 2-13:** 'THE HOUSE OF LEAN', FROM LIKER (2004, P33). ............................................................................................................................. 61

**FIGURE 2-14:** 4-M MODEL FOR PROBLEM SOLVING (FROM KRAFCK, 1988, P15) ............................................................................................. 62

**FIGURE 2-15:** RELATION BETWEEN CUSTOMER VALUE, COST AND WASTE (SOURCE: HINES ET AL, 2004, P997) ............................................................. 64

**FIGURE 2-16:** TOYOTA CULTURE (LIKER & HOSEUS, 2007, PXXVIII). ............................................................................................................................ 69

**FIGURE 2-17:** RELATION BETWEEN INNOVATION AND KAIZEN (IMAI, 1986) .............................................................................................................. 70

**FIGURE 2-18:** INNOVATION AS IMAI SEES IT (IMAI, 1986, P26). ............................................................................................................................... 70

**FIGURE 2-19:** THE COMBINATION OF INNOVATION AND CONTINUOUS IMPROVEMENT AS IMAI SEES IT (IMAI, 1986, P27). ..................................................... 71

**FIGURE 2-20:** HIGH AND LOW VARIABILITY VERSUS HIGH AND LOW VOLUME. ............................................................................................... 80

**FIGURE 2-21:** SAMPLE OF KOJAYASHI KEY WITH LEVEL AND JUDGEMENT CRITERIA ................................................................................................. 85

**FIGURE 2-22:** EXAMPLE OF LEAN ASSESSMENT BY TAPPING, LUYSTER AND SHUKER, 2002 ................................................................. 86

**FIGURE 2-23:** TAPPING ET AL (2002) REVIEWED LEAN ASSESSMENT EXAMPLE (SIC.) ............................................................................................... 86

**FIGURE 2-24:** LESAT LEAN ASSESSMENT TOOL DEVELOPED BY MIT AND LAI (P7) ................................................................................................. 87

**FIGURE 2-25:** MANUFACTURING NZ’S LEANSTEP PROGRAMME ............................................................................................................................ 88

**FIGURE 2-26:** EXAMPLE OF A BOX'S LEANSTEP TOOL FOR WEEKLY VALUE STREAM REPORTING. SOURCE: MASKELL, 2004, P8). ......................................................................................... 93

**FIGURE 2-27:** PRINCIPLES, PRACTICES & TOOLS OF LEAN ACCOUNTING (SOURCE: MASKELL & BAGGLEY, 2006, P37) ............................................................................... 95

**FIGURE 2-28:** PROCESS SWAPS TO FACILITATE BUILT-TO-ORDER ....................................................................................................................... 98
List of Tables

TABLE 1-1: THESIS PARTS, CHAPTERS AND DESCRIPTIONS........................................22
TABLE 2-1: KEY CHARACTERISTICS OF THE NZ PIPFRUIT INDUSTRY........................................42
TABLE 2-2: HISTORICAL PRODUCTIVITY IMPROVEMENT INITIATIVES, DRIVERS AND ATTRIBUTES........48
TABLE 2-3: SUMMARY OF LEAN MODELS ........................................................................62
TABLE 2-4: SUMMARY OF DIFFERENT WASTE PERSPECTIVES ..................................................66
TABLE 2-5: COMPARISON BETWEEN JAPANESE/US ‘TRANSPLANT’ AND US CAR ASSEMBLY PLANT
(Source: Womack, Jones and Roos, 1990)........................................................................72
TABLE 2-6: GROUPING OF CRITICAL ELEMENTS FOR LEAN IMPLEMENTATION..................75
TABLE 2-7: NUMBER, PERCENTAGE, AND CUMULATIVE PERCENTAGE OF ENTERPRISES BY SIZE IN
FEBRUARY 2010. (SOURCE: SMES IN NEW ZEALAND, 2011)............................................81
TABLE 2-8: CRITICAL SUCCESS FACTORS IDENTIFIED IN THREE DIFFERENT BUSINESS IMPROVEMENT
PHILOSOPHIES..................................................................................................................82
TABLE 2-9: COMPARING LEAN ASSESSMENT CRITERIA..........................................................89
TABLE 2-10: PROPOSED COMPARISON BETWEEN LEAN MANUFACTURING AND LEAN AGRIFOODS
(FROM HINES ET AL, 2011B), ............................................................................................103
TABLE 2-11: GOCH ET AL (2010, P4) TRANSLATION OF TRADITIONAL WASTE INTO AGRI-WASTE ....104
TABLE 2-12: CHARACTERISTICS OF LEAN, GROUPED IN THEMES AND REFERENCED BY AUTHOR ....107
TABLE 3-1: DISTRIBUTION OF SAMPLE BY INDUSTRY ACTIVITY..........................................127
TABLE 3-2: DISTINCTIONS BETWEEN QUANTITATIVE AND QUALITATIVE DATA (SAUNDERS ET AL, 2011).
........................................................................................................................................138
TABLE 3-3: RESEARCH STRATEGIES AND QUALITATIVE/QUANTITATIVE EMPHASIS.................145
TABLE 3-4: RESEARCH ORGANISATION GROUPING BY RESEARCH STRATEGY AND ORGANISATION TYPE.
........................................................................................................................................146
TABLE 3-5: RELIABILITY AND VALIDITY DESIGN....................................................................151
TABLE 4-1: INTUITIVE AND PROBLEMATIC LEAN PRACTICES WITHIN THE PIPFRUIT INDUSTRY........156
TABLE 4-2: ACTIVITY FOCUS OF CONSULTANTS......................................................................157
TABLE 4-3: CONSULTANTS’ AREA OF SPECIALISATION..............................................................158
TABLE 4-4: ‘PUSH’ AFFECTING LEAN IMPLEMENTATION..........................................................158
TABLE 4-5: SUMMARY VIEW OF LEAN EMPHASIS FOR SEASONAL INDUSTRIES ......................159
TABLE 4-6: PHILOSOPHY OR TOOLS/METHODS?....................................................................159
TABLE 4-7: OTHER MODELS RECOMMENDED BY CONSULTANTS............................................160
TABLE 4-8: CONSULTANTS’ CLOSING COMMENTS.....................................................................161
TABLE 4-9: PERCENTAGE DIVISION OF RESPONSES TO KOBAYASHI STATEMENTS......................164
TABLE 4-10: SKEWING TOWARDS ‘NOT KNOWING’ LEAN PRINCIPLES, METHODS AND TOOLS........166
TABLE 4-11: KEYWORD GROUPS ESTABLISHED TO ASSIST ANALYSIS......................................171
TABLE 4-12: SAMPLE OF RECORDS, ALLOCATED KEY WORDS OR CODES AND CATEGORISATION (ALL
ACTION RESEARCH AND CASE STUDY SAMPLES)................................................................172
TABLE 4-13: LEAN ORCHARD AUDIT SCORING CRITERIA.........................................................179
TABLE 4-14: RESULT OF INITIAL LEAN ORCHARD AUDIT (FIRST DRAFT).................................180
TABLE 4-15: ARO - APPLICABILITY AND IMPLEMENTABILITY SCORES.........................................182
TABLE 4-16: SELECTED COMMENTS FROM ARP END-OF-SEASON REPORTS (SIC.) ....................190
TABLE 4-17: INITIAL LEAN PIPFRUIT CLUSTER CALENDAR....................................................191
TABLE 4-18: SUBJECTS OBSERVED DURING CLUSTER MEETING FEEDBACK .........................193
TABLE 5-1: SAMPLE OF APPENDIX 15 WITH 32 PRINCIPLES/METHODS/TOWNS DISCUSSED........230
TABLE 5-2: SAMPLE OF APPENDIX 15 WITH 32 PRINCIPLES/METHODS/TOOLS DISCUSSED ................. 235
TABLE 6-1: RESEARCH FINDINGS, GROUPED AND DETAIL ADDED ............................................ 245
TABLE 6-2: EFFECT OF THEMES ON INDUSTRY SECTOR MODELS ........................................... 256
TABLE 6-3: CURRENT AND FUTURE STATE FOR ORCHARD QUICK CHANGE-OVER PLUS EXAMPLE ....... 260
TABLE 7-1: SUMMARY OF CRITICAL FACTORS FOR SUCCESSFUL LEAN IMPLEMENTATION .... 277