INDICE

CAPÍTULO I: INTRODUCCIÓN 13

1. Introducción 15
2. Objetivos de la investigación 17
3. Estructura de la tesis 19
4. Referencias bibliográficas 24

CAPÍTULO II: MATHEMATICAL MODELS FOR PRODUCTION PLANNING UNDER UNCERTAINTY IN SUPPLY CHAINS WITH LACK OF HOMOGENEITY IN THE PRODUCT: A REVIEW AND CONCEPTUAL MODEL 27

1. Introduction 29
2. Research methodology 33
3. Analysis Framework 35
4. Literature review 40
5. Conceptual model 69
6. Conclusions and future research 71
7. References 73

CAPÍTULO III: THE EFFECT OF MODELING QUALITIES, TONES AND GAGES IN CERAMIC SUPPLY CHAINS MASTER PLANNING 83

1. Introduction 85
2. Problem Characteristics 87
3. Modeling Lack of Homogeneity in the Product in Ceramic Supply Chains through Master Planning 91
4. Model Validation: Assessing the Impact of LHP Modeling 97
5. Conclusions 100
6. References 102

CAPÍTULO IV: FUZZY SETS TO MODEL MASTER PRODUCTION EFFECTIVELY IN MAKE TO STOCK COMPANIES WITH LACK OF HOMOGENEITY IN THE PRODUCT 105

1. Introduction 107
2. Background literature 110
3. Fuzzy master planning model for LHP manufacturing contexts (FMP-LHP) 113
   - 3.1. Problem description 114
   - 3.2. FMP-LHP Model formulation 115
   - 3.3. Solution methodology of the FMP-LHP Model 120

4. FMP-LHP Model validation 125
5. Conclusions and future research lines 135
6. References 136

CAPÍTULO V: A MODEL-DRIVEN DECISION SUPPORT SYSTEM FOR THE MASTER PLANNING OF CERAMIC SUPPLY CHAINS WITH NON UNIFORMITY OF FINISHED GOODS 141

1. Introduction 143
2. Problem Description 145
3. The MILP Model for Master Planning of LHP Ceramic SCs 147
4. The Model-Driven DSS 149
5. Description of DSS-LHP-CSC functionalities: an illustration of a ceramic case 151
6. Conclusions and Future Research 157
7. References 158

CAPÍTULO VI: CONCLUSIONES 161

1. Introducción 163
2. Conclusiones 163
3. Futuras líneas de investigación 167

CAPÍTULO VII: BIBLIOGRAFÍA GENERAL 169