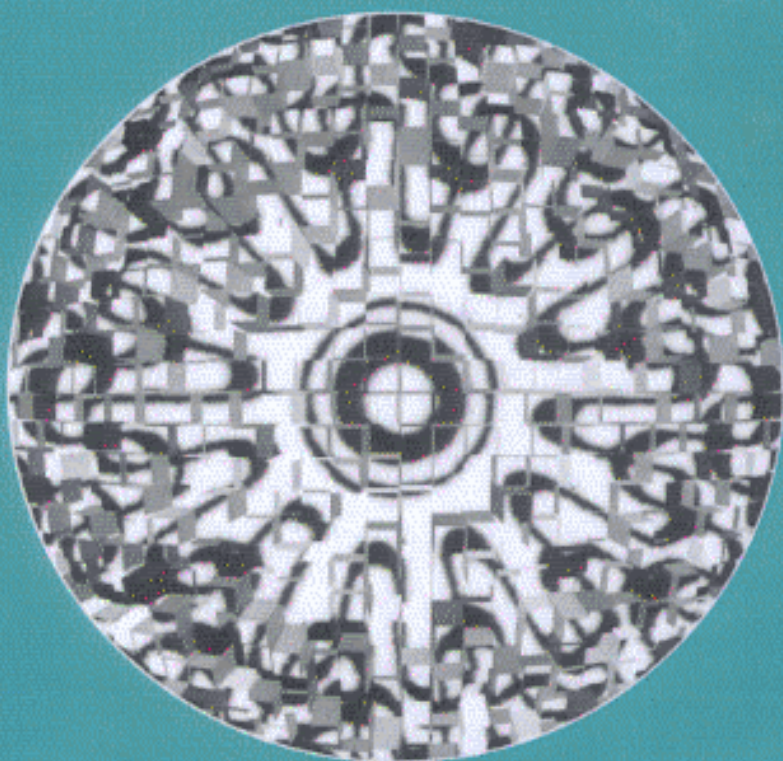


# **Mastering Information Retrieval and Probabilistic Decision Intelligence Technology**

Daniel Brown



Chandos Publishing

# Contents

<i>Introduction</i>	<i>ix</i>
<i>Acknowledgements</i>	<i>xiii</i>
<i>About the author</i>	<i>xv</i>
<b>PART 1 BACKGROUND ISSUES</b>	
<b>1 Who are you and what do you want?</b>	<b>3</b>
Questionnaire assessment	4
Observation	6
User requirements	10
Eliciting information through an interface	12
Summary	15
<b>2 The limits of human and automated decision-making</b>	<b>17</b>
The limits of human decision-making	17
The limits of automated decision-making	21
<b>PART 2 HOW IT WORKS</b>	
<b>3 The digital you</b>	<b>29</b>
What questions should be asked?	31
A great misnomer: the unique identifier	33
Conclusions	40
<b>4 Artificial intelligence technologies</b>	<b>43</b>
Artificial neural networks	43
Bayesian inference	44
Rules-based systems	45

	Reinforcement learning	47
	Summary	52
<b>5</b>	<b>The sea of data</b>	<b>55</b>
	Information retrieval	55
	Content management	57
	Conceptual classification	60
<b>6</b>	<b>The development of taxonomies</b>	<b>63</b>
	Structuring data	63
	Designing the taxonomy	64
	Document labelling	67
	Maintaining the taxonomy	70
	Case study 6.1: UK government's Online strategy	70
	Conclusions	74
<b>7</b>	<b>Extracting the meaning of information: using the AI methods</b>	<b>77</b>
	Search/information retrieval	77
	Classification	78
	Personalisation	81
	Making an intelligent information choice	83
<b>8</b>	<b>Information in people</b>	<b>91</b>
	Strategies for people information management	91
	Creating value from tacit and explicit knowledge	92
	Key building blocks of information management	93
	Networking	94
	Structured connection	96
	Dimension-directed search	100
<b>PART 3 IMPLEMENTATION</b>		
<b>9</b>	<b>Decision intelligence applications</b>	<b>103</b>
	Internet shopping	103
	Decision processes	105

Self-determination	107
Case study 9.1: personalised video recording	108
Case study 9.2: financial services	112
<b>10 Ensuring successful practical implementation</b>	<b>115</b>
Requirements capture	116
Project definition	118
Troubleshooting	119
Success	123
<b>11 Who do you think I am! Challenges to the technology</b>	<b>125</b>
What I think you think of me	125
Your identifier needs you	128
They see 'You' but what about Me?	130
<b>12 The future of decision intelligence technology</b>	<b>133</b>
Benefits	133
Dangers	134
Standards	134
Privacy and confidentiality	137
The future of decision intelligence	140
<b>Glossary</b>	<b>143</b>
<b>References</b>	<b>147</b>
<i>Index</i>	<b>149</b>