

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Leadership in extreme contexts:

When survival is not enough!

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

Doctor of Philosophy

In

Emergency Management

Massey University, Wellington, New Zealand

Bruce Pepperell

2021

Abstract

This research examines how people exercise authority during extreme contexts, establishes those capabilities and systems necessary to deliver effective outcomes during such situations, and investigates how, through effective leadership, society can leverage unfortunate events to thrive rather than merely survive.

To achieve this, it was necessary to deconstruct the generic term leadership and examine the DNA of each of the various forms of exercising authority (including governance, leadership, management, and command). This revealed concepts that have become lost to contemporary leadership thought and a western theoretical spectrum that sometimes struggles to cope with the dynamism present in extreme contexts.

Findings indicate that there is more to leadership than the characteristics and actions of a single individual and that it is not until the system, in its entirety is considered, that many of the opportunities for and challenges to successful mission completion are identified.

Additionally, understanding the needs and aspirations of a broad spectrum of society is a necessary antecedent when compiling a list of those individual and collective capabilities required to generate successful outcomes.

The study also highlights the importance of evolving perceptions of national security, arising from recent changes to sector definitions, and questions the current roles and utility, along with the fragmented nature, of standing national security assets.

The conclusions are intended to complement the current body of scholarly leadership material by introducing the interactive Leadership Capstan to explain and shape the dynamic and complex forces at play during extreme contexts, breaking the leadership challenge into more manageable building blocks. The findings also identify those factors that are more likely to lead

to thriving outcomes when the tendency is to address the presenting threats in a more transactional manner.

This enhanced scholarly platform is then available to inform those development programmes charged with grooming future leaders and overcoming those deficiencies highlighted in the current policy instruments and structures that the nation employs during response operations.

Keywords: **Systems, Leadership, Command, Governance, Management, Authority, Extreme Contexts, Intensifiers, Attenuators, Thriving, Opportunity, Luck, Response, Recovery, People, Purpose, Capabilities, Ownership, Credibility, Decision-making, Security, Leadership Capstan.**

Preface

Imagine a disaster exercise scenario that started with:

- a. A prolonged period of rain to soften the ground closely followed in the middle of the night by,
- b. A significant earthquake initially assessed as 6.5 on the Richter scale, eventually confirmed three days later as 7.8 (or roughly one hundred times greater in terms of energy released),
- c. An associated tsunami (initially advised as no tsunami threat, followed an hour later by a period of uncertainty, before eventual confirmation two hours later),
- d. Considerable (and often masked) building damage occurring in seemingly random pockets across the region,
- e. A storm with 140kph winds buffeting the region, followed the next day by,
- f. Further heavy rain fragmenting the surrounding area with,
- g. Major transport routes cut by multiple floods and slips (some for several days),
- h. Throw in a mini-tornado and,
- i. A swarm of bees coming to town to settle on a random car.

Bad luck, ridiculous; perhaps? And yet, that is the situation faced by emergency managers in Wellington shortly after midnight on 14 November 2016. There followed an intense period characterised by poor situational awareness, volatility, complexity, and confusion; where officials and members of the public attempted to identify and address multiple (simultaneous and consecutive) challenges, the most significant being the severity of the damage to the region's building stock; with associated impact on personal safety, plus flow-on implications for the region's economy.

My experience at the Wellington Civil Defence Emergency Management (CDEM) Group provided a fresh perspective on some key security fundamentals that I had previously taken for granted. Prior to 2010, while serving in the Royal New Zealand Navy, “bad things” only happened in other countries, and I had spent many years deployed overseas promoting New Zealand’s interests in the mistaken belief that everything was safe and secure back home.

In 2010 and again in 2011, the earthquakes in Christchurch and the resulting impact on New Zealand changed all that. Closer to home, the series of momentous events impacting Wellington from 2013 to 2016 brought a fresh set of challenges that thoroughly tested any previously acquired skills, knowledge, and experience. During that time, Wellington City’s CBD was effectively “shut down” twice, on neither occasion with any legislated authority, yet at the time, the public went along with the direction provided. These disasters highlighted challenges in coping for some people and brought out the absolute best in others.

Step forward, a little over two years, and the nation was again in turmoil when a lone gunman attacked two Christchurch mosques killing fifty-one people whilst physically and psychologically injuring many more. Then, a year later, with possibly our most significant challenge since World War II, facing multiple threats to society arising from the Covid 19 pandemic.

This PhD is the product of curiosity and considerable personal reflection, having been an observer, participant, and in some cases the leader of aspects of resulting response operations. During this time, I witnessed many phenomena where I was unsure why things occurred. My 42 years’ experience as a Naval Officer and Emergency Manager, which covered the spectrum of governance, command, leadership, and management appointments, granted me the opportunity to gain first-hand experience working with people of diverse cultures in different locations, in challenging and unfamiliar contexts. Yet, there was still much I did not understand.

This thesis chronicles my journey as a leader and participant during extreme contexts, tapping into the cumulative wisdom of previous scholarship, plus the first-hand experience of others who have led during or lived through the same or similar events. It is an attempt to better understand leadership, its meaning and potential impact during times of extreme context, the challenge and uncertainty that comes with this, and perhaps, those opportunities just waiting to be grasped.

To Gordon and Jennifer, who instilled in me a good work ethic and provided the
encouragement to achieve my goals

Acknowledgements

As a leader, I have always understood that the higher up the chain you get, success is less a result of professional/trade skills and comes more from your ability to influence and work with others.

My 42 years in the New Zealand Defence Force and Wellington Region Emergency Management Office (WREMO), plus involvement in professional and amateur sport, have given me a range of insights into life at its absolute best and also under the most extreme pressure. In this respect, I am incredibly grateful to the people I worked with, both as individuals and teams, many of whom subsequently influenced my approach to leadership and working with others. The best leaders I encountered were not always the most successful in terms of status attained within the organisations they worked.

Throughout my career, there have been successes, but also several failures. This latter category provided me with the more powerful learning experiences, lessons that served me well during subsequent more challenging assignments, particularly during the Kaikōura series of events.

Any endeavour lasting three and a half years where one is required to forego an income requires the enthusiastic support of the entire family. I am therefore most grateful to my wife Janice for her support and my son Russell whose personal library on psychology, abstract thought, motivation, and a range of sporting topics provided some particularly insightful background reading.

A special vote of thanks goes to my supervisory panel, Professors David Johnston and Rouben Azizian, whom I have known from previous roles, and Dr Bridgette Sullivan-Taylor, a more recent arrival to my circle. All generously shared their knowledge and experience and

channelled my enthusiastic practitioner-based ideas in new directions. Similarly, I would like to recognise the contribution of the staff and students at the Joint Centre for Disaster Research (JCDR) and Centre for Defence and Security Studies (CDSS) in providing a supportive learning environment and plenty of encouragement. Others at Massey University contributed behind the scenes, none more supportive than the Wellington campus library team, particularly James Duncan and Hardeep Gill, who frequently made themselves available at short notice to assist.

My time in the Defence Force gave me access to fantastic people with experience in unique and demanding contexts. It provided a standard toolkit of knowledge, skills, perspective, and the confidence to tackle any challenge that crossed my path. It then provided me with a variety of opportunities to put much of that into practice. I certainly wish I had known then, what I know now, having completed this programme of research.

A significant catalyst for pursuing this higher learning was the experience of working with my old team at the Wellington Region Emergency Management Office (WREMO). They do tremendous work in the community and have provided robust leadership on so many levels during all too frequent disasters in recent years.

I would also like to acknowledge the financial support of QuakeCoRE, the New Zealand centre of research excellence whose *raison d'être* is to transform the earthquake resilience of our communities and societies.

Lastly, and most importantly, to the people interviewed as part of this research project, thank you for the investment of time and interest shown in my research, along with your valuable perspectives. As a result of your interviews, there were many powerful insights gained. I consider myself most fortunate to have been able to tap into such a wealth of knowledge, experience, skills, opinions, and attitudes. Thank you.

Table of Contents

Abstract.....	iii
Preface	v
Acknowledgements.....	ix
List of Tables	xxiii
Table of Figures.....	xxv
List of Acronyms.....	xxvii
Chapter 1: Introduction	1
Introduction	1
Our volatile world	1
Leadership found wanting	2
Significance of research	3
Research Questions	5
Thesis structure.....	5
Time Stamp	8
Chapter Summary	8
Chapter 2: Establishing the Gap.....	11
Introduction	11
Discovery.....	11
Leadership in extreme contexts: Definitions and scope.....	14
Crisis	14

Emergency.....	15
Disaster	15
Catastrophe.....	15
Extreme Event.....	16
Extreme Contexts.....	16
Leadership.....	17
Leadership: Theoretical foundation.....	19
Leadership: Practical Application during Extreme Contexts.....	21
The Executive's trinity: Management, leadership, and command.	21
Clumsy solutions to wicked problems	22
Cynefin – strategy in the context of uncertainty	24
Post-Normal Science	26
Harvard University initiatives.....	28
Leadership as a system	30
Other factors influencing Leadership in Extreme Contexts	31
Theory versus practice	32
Defining the Gap	33
Chapter Summary	36
Chapter 3: Research methodology	37
Introduction	37
Declaring biases	37
Social science conceptual framework.....	38

Research design	41
Research philosophy	41
Research approach.....	42
Research strategy.....	42
Data collection methods	45
Research structure	46
Case Study design	47
Fieldwork.....	57
Ethics	58
Analysis (Themes)	58
Chapter Summary	59
Chapter 4: Leadership System during Extreme Contexts	61
Introduction	61
System Models.....	61
Warden’s Five Ring Model	62
Integrated Logistic Support (ILS).....	64
Baldrige as an organisational/business system	65
Leadership system entities	66
Operational leaders	66
Staff	68
Staff system.....	68
Governance.....	70

Partner agencies	70
Council.....	71
Media	71
Members of the public.....	71
Intangibles.....	72
Articles	72
Context.....	72
Purpose	73
Chronological phasing.....	73
System structure	73
Relationships between leadership system components	76
Inter-leader activity.....	76
Response Manager	83
Recovery Manager	83
Mayor (Political leader).....	84
Council.....	85
Central and Local Government Interface.....	86
Operations centre staff – professional	87
Operations centre staff – laypeople	88
Specialist Advisors.....	90
Media	91
Business.....	93

Military.....	94
Leadership advisors.....	95
Members of the public.....	96
Key findings and observations	108
The Leadership team.....	111
The Leadership system.....	111
Those Factors Inherent in Extreme Contexts.....	113
Observations	114
Chapter Summary	115
Chapter 5: Exercising Authority - Interrogating Theory and Convention	117
Introduction	117
Cultural Perspectives	117
East versus West	121
Western Categorisation	124
Categorising the Theoretical Spectrum	124
Evolution of Leadership Thought.....	130
Deconstructing Leadership	133
Governance.....	135
Management.....	137
Command (and Control)	137
Leadership.....	150
Other leadership related factors.....	150

Assembling the pyramid	152
The pyramid in practice	153
Chapter Summary	162
Chapter 6: Analysis of Case Study data.....	163
Introduction	163
Typology.....	163
Kaikōura	164
Location in (and across) time	164
Magnitude and Probability of Consequences.....	172
Physical and Psychosocial Proximity.....	174
Form of Threat	175
Attenuators	175
Intensifiers	180
Response of Adaptive Leadership.....	185
Covid 19 Pandemic.....	188
Location in (and across) time	188
Magnitude and Probability of Consequences.....	192
Physical and Psychosocial Proximity.....	192
Form of Threat	193
Attenuators	197
Intensifiers	201
Response of Adaptive Leadership.....	204

Sporting Example	205
Phases	205
Magnitude and probability of Consequences	206
Physical and psychosocial proximity	207
Form of threat	207
Intensifiers	209
Attenuators	211
Response of adaptive leadership	213
Analysis Summary	214
Comparison with further case studies	217
The Kaikōura earthquake as experienced by another CDEM Group.	218
The Christchurch earthquakes of 2010 and 2011	219
The July and August 2013 Cook Strait/Seddon earthquakes	220
The June 2013 Wellington storm	220
The March 2019 counter-terrorism operations in Christchurch	221
Australian SES experiences (not event-specific)	222
Military conflict operations– including military support for civil power.	223
Enhancements to components of the Hannah model	223
Purpose	225
People	226
Risk versus Opportunity	226
Adversary	227

Context.....	228
Questions	228
Chapter Summary	229
Chapter 7: Leadership Capstan	231
Introduction	231
Aristotle’s Rhetoric	231
Three Means of Persuasion	232
Relevance to Leadership	233
The Leadership Capstan.....	235
Leadership.....	236
People	237
Means of Engagement.....	240
Decisive moments.....	242
Context.....	244
Attenuators.....	244
Intensifiers	244
Purpose	245
Integrated aspects of the model.....	246
Chapter Summary	247
Chapter 8: Leadership Capabilities during Extreme Contexts	249
Introduction	249
Capabilities.....	250

Ownership.....	250
Credibility.....	253
Personal resilience and drive under pressure.....	256
Cognitive capacity.....	265
Exuding confidence.....	266
Emotional Intelligence.....	268
Sense-making.....	268
Decision-making.....	270
Providing direction.....	279
Providing understanding, assurance, and acknowledgement.....	281
Personal qualities and values, with which to connect with people.....	282
Being an effective communicator.....	284
Being an effective listener.....	287
Experience.....	290
Professional smarts.....	291
Teamwork/Coalition management.....	292
Capability Model.....	293
Reconciliation against previous scholarship.....	294
Reconciliation commentary.....	298
Operational response versus BAU leadership.....	300
Developing leadership Capability.....	303
Chapter Summary.....	306

Chapter 9: Thriving through Extreme Contexts	309
Introduction	309
Definition	310
Eastern versus western approaches	311
Learning from History	312
Interview Data.....	314
Purpose	315
Managing successful outcomes through a set of risk/opportunity-balanced progressive steps.....	316
Personal and organisational growth	319
Lessons learned.....	320
Societal or community growth.....	323
Searching for the opportunity/win/success and then acknowledging the satisfaction ...	324
Seizing the moment	327
Luck.	329
Learning from the Business Sector	333
Reconciliation between sectors.....	335
Purpose (Robust strategic vision)	335
Context.....	336
Conclusion.....	336
Chapter Summary	338
Chapter 10: Consequences for the Future of the Security Sector	341

Introduction	341
Definition and scope	341
Security Sector	341
National Security	344
Vision and Strategy	344
A unified National structure.....	345
Lessons Learned System	347
Training, Development, and Exercises.....	347
Experience.....	349
An integrated effective security system	351
An effective staff system.....	352
Integrated Response to All hazards, All Risks, Including Collateral Impacts.....	354
Capability and Capacity.....	357
Chapter Summary	364
Chapter 11: Conclusion.....	367
Introduction	367
Methodology.....	367
Outcomes.....	368
A systems approach to leadership (Research Question one)	368
Authority	369
Leadership Capabilities (Research Question two)	369
Thriving during extreme contexts (Research Question three)	370

Consequences for the security sector.....	371
The Leadership Capstan	372
Candidates for further research.....	374
Taking the thesis findings further	375
Thesis Summary	375
Personal reflection and curiosity	376
References	378
Appendices.....	398
Appendix A: Primary research applications	399
Appendix B: Alternate Research Strategies	400
Appendix C: Profile of those people interviewed	403
Appendix D: Indicative questions asked of those being interviewed	405
Appendix E: Research Information and Approval Sheet.....	407
Appendix F: Themes coded for analysis.....	410

List of Tables

Table 1 Development Thinking on Leadership in the Twentieth Century	20
Table 2 Decisions in Multiple Contexts: A Leader's Guide	26
Table 3 The Scholarship Gap	35
Table 4 A Scheme for analysing assumptions about the nature of Social Science	39
Table 5 Four Paradigms for the analysis of Social Theory	40
Table 6 Research Strategy Framework Level 1	42
Table 7 Research Strategy Framework Level 2	42
Table 8 Relationship between Epistemology and Ontological Positions and Approaches to Case Studies.....	44
Table 9 Research Strategy Framework Level 3	45
Table 10 Research Strategy Framework Level 4	46
Table 11 Phases of Thematic Analysis	56
Table 12 Five Ring System Elements.....	63
Table 13 CIMS Functions.....	69
Table 14 Modified Continental Staff System as used by the NZDF	70
Table 15 Multi-agency support for CDEM operations	78
Table 16 Zaleznik Follower Typology	103
Table 17 Kelley Follower Typology.....	104
Table 18 Douglas Matrix of Structure and Group Loyalty	104
Table 19 Pepperell Matrix of Resilience-building Measures	105
Table 20 Evolution of Theory	126
Table 21 Leadership Capstan - Authority Layer	153
Table 22 Survey template for interviews.....	155
Table 23 Survey template background	156

Table 24 Factors highlighted in the Hannah Model..... 217

Table 25 Factors additional to Hannah Model..... 225

Table 26 USGS Damage Assessment tool 271

Table 27 Reconciliation of leadership competencies 297

Table of Figures

Figure 1 Thesis workflow	6
Figure 2 Typology of Extreme Contexts	17
Figure 3 The Executive’s Trinity	21
Figure 4 Typology of Problems, Power, and Authority (sic)	22
Figure 5 Matrix of Structure and Group Loyalty	24
Figure 6 The Cynefin Framework	25
Figure 7 Problem-Solving Strategies	27
Figure 8 Decision-making Continuum across Complexity	28
Figure 9 Emergent Approach	46
Figure 10 Initial System Sketch	50
Figure 11 Three-dimensional Case Study.....	51
Figure 12 Four-dimensional Case Studies.....	53
Figure 13 Dismantled units of analysis	54
Figure 14 Effects Based Operations	62
Figure 15 Five Ring Model.....	63
Figure 16 Integrated Logistic Support considerations	64
Figure 17 Baldrige Framework overview	66
Figure 18 Leadership models identified in interviews.....	75
Figure 19 Conceptualisation of Traditional Māori Approach to Disaster Risk Reduction	102
Figure 20 Systems Approach “as is” model	109
Figure 21 Leadership Team.....	111
Figure 22 Leadership Capstan - Systems Layer	112
Figure 23 Crisis Situation Map and Dependencies	113
Figure 24 Half the business is left to fate.	115

Figure 25 Optical illusion.....	118
Figure 26 Positioning 40 Countries against Cultural Dimensions	120
Figure 27 Binary Model A: centralisation – decentralisation.....	131
Figure 28 Binary language Model B: Science versus Culture	131
Figure 29 Political Zeitgeist	132
Figure 30 Elements of the Trinity.....	134
Figure 31 Command and Control.....	144
Figure 32 Regional control structure for Covid.....	147
Figure 33 Pyramid of Exercising Authority.....	152
Figure 34 When you know you are having a bad day	168
Figure 35 Damaged Building Register	170
Figure 36 Covid 19 National Response Structure	191
Figure 37 Dow Jones Values in 2020.....	194
Figure 38 S&P NZX 50 Index.....	194
Figure 39 The Dow Jones Industrial Average: 1896 - 2016.....	196
Figure 40 New Zealand Identity.....	200
Figure 41 Leadership Capstan - Contextual Layer.....	230
Figure 42 Interpretation of Aristotle's Rhetoric (Modes of Persuasion)	233
Figure 43 The Leadership Capstan	235
Figure 44 Leadership Capstan - People Layer	239
Figure 45 Leadership Capstan - Capability Layer	294
Figure 46 Leadership Capstan - Purpose Layer	338
Figure 47 Maslow's Hierarchy of Needs	355
Figure 48 Leadership Capstan (explanatory version).....	363

List of Acronyms

A & E	Accident and Emergency (Department in a hospital)
ABR	Australian (Navy) Book of Reference
ADF	Australian Defence Force
AEMI	Australian Emergency Management Institute
AIIMS	Australian Inter-service Incident Management System
AoG	All of Government
App	Application usually downloaded for use on a cell phone.
BAU	Business as usual
BCP	Business Continuity Plan
CALD	Culturally and Linguistically Diverse
CBD	Central Business District
CDEM	Civil Defence Emergency Management
CDSS	Centre for Defence and Security Studies (part of Massey University)
CE	Chief Executive
CEO	Chief Executive Officer
CIMS	Coordinated Incident Management System (NZ)
DCAF	Geneva Centre for Security Sector Governance
DNA	(Deoxyribonucleic acid) Fundamental and distinctive elements of something

DPMC	Department of the Prime Minister and Cabinet
EBO	Effects Based Operations
ECC	(Regional level) Emergency Coordination Centre
EGA	Emergent Goal Attainment
EOC	(Local level) Emergency Operations Centre
EQ	Emotional (Quotient) Intelligence
FENZ	Fire and Emergency New Zealand
GDP	Gross Domestic Product
Geonet	New Zealand's real-time geological monitoring system
GNS Science	NZ's pre-eminent provider of earth, geoscience, and isotope research
GT	Grounded Theory
HB	Heuristics and Biases (Decision-making school of thought)
HP	Hire Purchase
HTM	Human Terrain Mapping (see HTS below)
HTS	Human Terrain System
HQ	Headquarters
ICS	Incident Command System
ILD	Institute of Leadership Development (New Zealand Defence Force)
IMT	Incident Management Team(s)
JCDR	Joint Centre for Disaster Research (part of Massey University)

JMAP	Joint Military Appreciation Process
MBIE	Ministry of Business, Innovation, and Employment
MoH	Ministry of Health
Mw	Moment Magnitude (Authoritative magnitude scale for ranking earthquakes)
NCMC	National Crisis Management Centre (Centre located under the Beehive)
NDM	Naturalistic Decision-making
NEMA	National Emergency Management Agency (NZ)
NGO	Non-Government Organisation. E.g., Red Cross, Salvation Army
NHCC	National Health Crisis Centre
NIMS	National Incident Management System (USA)
NPLI	National Preparedness Leadership Initiative (USA)
NWS	(New Zealand) National Warning System
NZBR	New Zealand (Navy) Book of Reference
NZDF	New Zealand Defence Force
NZIOD	New Zealand Institute of Directors
OCC	Operational Command Centre
OD	Organisational Design
ODESC	Officials Committee for Domestic and External Security Coordination
PAR	Participatory Action Research
PPE	Personal Protective Equipment

PPPs	Private-Public Partnerships
PTWC	Pacific Tsunami Warning Centre (Hawaii, USA)
RPD	Recognition Primed Decision-making
SAS	Special Air Service (Special forces unit of the New Zealand Army)
SEALs	US Navy's elite combat force (Sea, Air, and Land Forces)
SES	State Emergency Service (Australia)
SH	State Highway
SOP	Standard Operating Procedure
SSR	(United Nations) Security Sector Reform
TA	Territorial Authority
UN	United Nations
US	United States (of America)
USA	United States of America
UNSC	United Nations Security Council
VUCA	Volatile, Uncertain, Complex, and Ambiguous
WREMO	Wellington Region Emergency Management Office

Chapter 1: Introduction

Introduction

Anyone who has led through a time of significant turbulence, uncertainty, and high risk, will have cause to reflect, both on their leadership performance and the events that unfolded:

- a. So, what actually happened there? It all happened in a blur.
- b. Where is the framework for dealing with a massive event like this?
- c. What value does society place on life?
- d. What does safe mean in a world that is not inherently safe?
- e. Would a different set of decisions have resulted in better outcomes?
- f. We got lucky. What is luck?
- g. Why did some people perform admirably and others wilt under pressure?

This chapter establishes the *raison d'être* for the research. Specifically, why a more targeted look at leadership during crisis situations is necessary when society is already awash with leadership theory, practice, and advice.

Our volatile world

The genesis of this research occurred in 2017. Major series of earthquakes in New Zealand during 2010, 2011, 2013, and 2016; their impact on the population; along with the grim prognosis of future events of this nature (GNS Science, n.d.; Howarth et al., 2018); had galvanised a desire to be better prepared for the next significant occurrence ("More prepared for big one," 2014). Prior to that, New Zealand had experienced a relatively benign 80-year period, with the impact and outcome of the 1931 Napier earthquake considered little more than folklore three generations later.

In addition to these earthquakes, there have been several recent business-related extreme events: the Fonterra botulism scare (John, 2018), kiwifruit PSA virus (Greer & Saunders, 2012),

Mycoplasma bovis infection (Cooke, 2018), and the Pike River mining disaster (McDonald, 2010) to mention a few. Each has resulted in significant social and economic impacts for people, the region or sector represented, and ultimately, the country.

Overseas, in 2018, eight hurricanes (Beryl, Chris, Florence, Helene, Isaac, Leslie, Michael, and Oscar), plus seven Tropical Storms (Alberto, Debby, Ernesto, Gordon, Joyce, Kirk, and Nadine) cut a path across the Atlantic seaboard (National Hurricane Center, 2018). During the hurricane season (officially 1 June to 30 November), these are a regular feature and frequently impact the area where the author previously lived in Virginia, USA.

These storms, however, are but one type of extreme context, in only one sector of the globe, and occurred in one tiny passage of time. Add to that severe storms elsewhere in the world, flood damage caused by monsoons, the impact of major earthquakes, wildfires, significant business-related disasters, conflict in war zones, famine, disease, terror attacks, and other extreme contexts; the world is undoubtedly an uncertain and volatile place.

More recently and with dire global consequences, the Covid 19 pandemic of 2019/20/21 has caused death, considerable socioeconomic disruption, and significant change to our way of life (Sarkodie & Owusu, 2021).

Leadership found wanting

It is rare to find a situation like those outlined above, where commentators claim the event to have been well-managed. The Boston Marathon bombings may be one (Marcus, McNulty, Dorn, & Goralnick, 2014). Most have resulted in death; economic, environmental, infrastructural, cultural, and social loss; plus, significant disruption, misery, and inconvenience for others further afield. On occasions, this has meant criticism and incrimination against those in leadership positions who have been found wanting before, during, or after the event (Boin, Hart, McConnell, & Preston, 2010; Eubanks et al., 2010).

How can we produce the leadership necessary to prepare for, respond to, and recover from, such extreme contexts, and can we leverage these unfortunate situations to thrive rather than merely survive?

Significance of research

According to Dynes and colleagues (Dynes, 1974; Dynes, Quarantelli, & Kreps, 1981) (as cited in Hannah, Uhl-Bien, Avolio, & Cavarretta, 2009, p. 898), "besides the disaster itself (e.g., a hurricane), the second major source of negative outcomes come from errors of commission or omission in the organization's and its leaders' actions in response to the disaster and its aftermath."

Hannah et al. (2009) also stated that extreme contexts have a great need for capable leadership due to the high level of contextual risks involved. They added that, of all the various leadership fields, extreme contexts might be among the least researched when it is possibly the area where it is needed the most. Porter and McLaughlin (2006) similarly noted the lack of research in their literature review of context influencing leadership performance.

The sentiment was also shared by Deverell (2012) when referring to the report on the Bhopal industrial accident in 1984, inferring that the primary focus was on causes and impacts rather than the leadership function itself. He further stated that "many crisis management scholars then seem preoccupied with the empirical study of events, causes, triggers, and consequences. Thus, they tend to neglect how events are managed by decision-makers, stakeholders and organizations" (Deverell, 2012, p. 9). This acknowledgement suggests that the spotlight needs to shine on those endogenous leadership factors and not simply the more exogenous circumstances.

This apparent lack of scholarship is surprising, given what is at stake. In the 2011 Christchurch earthquakes alone, 185 people died. As estimated by the Reserve Bank, the original rebuild costs totalled \$20b (Parker & Steenkamp, 2012), subsequently adjusted to \$40b (A. Wood,

Noy, & Parker, 2016). Actual losses were likely much higher when considering economic disruption, lack of building stock, cultural/demographic change, and social relocation (Newell, Johnston, & Beaven, 2012), with the impact felt across the country.

In the case of the 2018 Atlantic hurricane season, of the fifteen significant events recorded that year, two hurricanes (Michael and Florence) alone accounted for at least 96 deaths and estimated damage of US\$60-90 billion (Newsfeed, 2018). The devastation from those events was of such magnitude that the World Meteorological Organisation (WMO) announced it would never use those hurricane names again (McNoldy, 2019).

While the original exponential increase in health losses from Covid 19 initially abated as a result of response measures (S. Wilson, 2020), deliberate miscommunication (Leach & Probyn, 2021), complacency, and a mutating virus, have seen fresh spikes in infection (Worldometer, 2021). Accordingly, it will be some time before the situation (health, economic, and social) is both under control and the disruption has evolved into adjusted normality (Office of the Auditor General, 2021).

Given the likelihood of such extreme contexts, their potential impact, and range of those factors at stake (our well-being and way of life), and the limited range of research to date on leadership in extreme contexts, this situation demands further scholarly investment. The benefits of this would include enhancing the small body of literature on the topic and better-assisting leadership practitioners (whether they be political, military, business, or public sector) when dealing with all too frequent, complex, extreme real-life events.

Additionally, with recent changes to the definition and scope of the security sector and the emphasis now being given here to personal well-being (The International Security Sector Advisory Team, 2012), leadership must ensure all those enabling factors leading to well-being are synthesised. This situation is equally, if not more important, during extreme contexts than periods of business-as-usual (BAU).

Research Questions

As a result of the findings above, the following research questions were considered to provide sufficient focus for an effective literature review and to challenge the research proposed to narrow the gaps in understanding posed in the opening paragraph of this chapter. This is followed in brackets by the thesis chapter(s) addressing the questions:

- One.** What are the leadership systems necessary to deliver more successful outcomes in extreme contexts and what is the standard for measuring success? (Chapters 4, 5, 6, and 7).
- Two.** What are the leadership capabilities required during extreme contexts and how do these differ from those capabilities required during business-as-usual conditions? (Chapters 5 and 8).
- Three.** Lastly, through effective leadership, how can we leverage these unfortunate events to thrive rather than merely survive? (Chapter 9)

Thesis structure

Given the intent outlined above, the following structure was utilised in developing this thesis. Aside from the initial standard chapters (introduction, initial literature review, and methodology), the research proper commences in Chapter four, with a ground-up unveiling of the individual components of the leadership system during extreme contexts, followed by commentary on the relationships between each of those components. The system and associated relationships are then reduced to a single A4 sheet. Successive chapters build on Chapter four's findings with additional input from previous scholarship, plus observations and interviews from the case studies, all except for Chapter five, which re-examines existing literature to investigate in greater depth, concepts and inconsistencies arising from material gathered early in the analysis phase. A graphical representation of this is as follows:

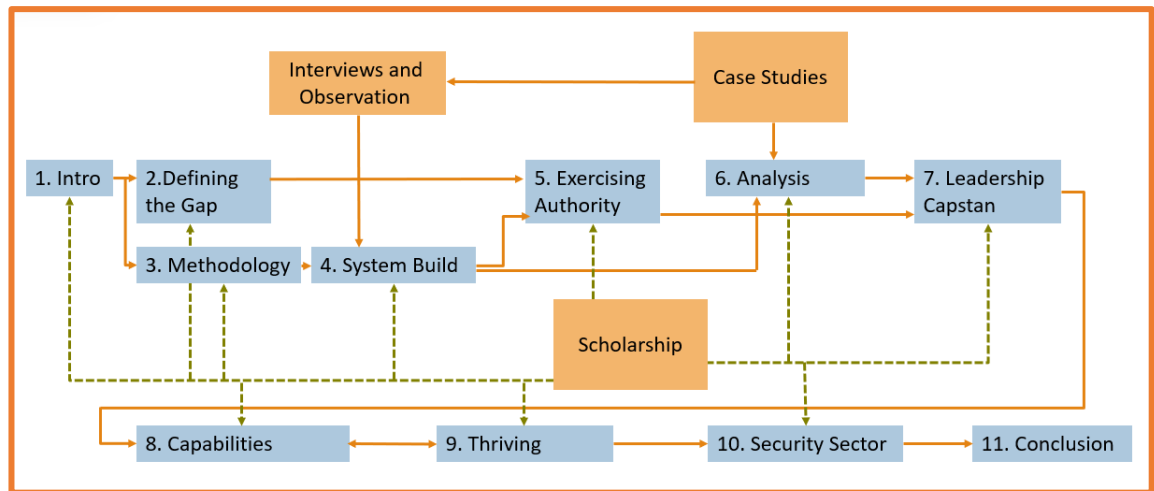


Figure 1 Thesis workflow

A summary of the individual chapters follows below. Of note, where this research differs from much of the previous scholarship is that it draws input from a more comprehensive representation of society across a broad range of scenarios. It also considers alternative approaches to the western propensity to categorise and create rules to understand complex issues.

- a. Chapter one provides an introduction, which includes the need and driving motivation for the research.
- b. Chapter two is a synopsis of the existing literature, with material identified and examined to highlight the current range of scholarship and determine gaps in the existing theoretical spectrum. It should be noted that as a result of aspects of the research methodology employed (inductive approach, emergent case study strategy), there was a need to revisit the literature to re-examine it more critically to reconcile apparent inconsistencies and better understand emerging concepts.
- c. Chapter three outlines those factors that influenced the selection of the research methodology and those design features factored into the strategy. It is worth noting that the design evolved to incorporate research opportunities presented by the emergence of Covid 19.

- d. Chapter four examines the proposition that leadership is a system and not the actions of a single person (i.e., the leader). In this chapter, the proposed system components are identified and populated. The relationships between these system components (entities and concepts) are then examined to determine the challenges and potential opportunities arising from situations of extreme context.
- e. Chapter five takes the input from Chapters two and four and takes a deeper dive into leadership theory to examine the DNA of how people exercise authority. It questions the standard western approach to scholarship and practice and exposes the limitations of static theories when confronting dynamic situations. In addition to the contents of the following chapters, this chapter paints a picture of the inadequacy of some of the current emergency management policy instruments and structures in facilitating an effective response to extreme contexts.
- f. Chapter six takes the Hannah et al. (2009) typology introduced in Chapter two (page 17) and uses it as a conceptual framework to analyse two primary case studies (the Kaikōura series of events as they impacted Wellington and Covid 19). This five-component typology outlines the influences that context has on leadership and explores the symbiotic relationship between these two critical factors. Those issues and challenges identified through this process are then examined further, against a series of other case studies, including a parallel sector scenario, in this case, a New Zealand sports team competing in a World Cup. The result identifies where current scholarship requires enhancement to consider those additional critical factors exposed through the research.
- g. Chapter seven introduces a simple, interactive (partially reconstituted) model that may have fresh relevance in explaining leadership challenges and opportunities when guiding those engaged in response operations during extreme contexts.
- h. Chapter eight identifies and examines the leadership capabilities highlighted from interviews conducted with a 360-degree representation of participants identified as part

of the leadership system. It then compares these with previous research, which has primarily targeted input from crisis leaders only. The chapter concludes with an examination of the differences between operational and business-as-usual (BAU) leadership.

- i. Chapter nine examines how people and organisations may leverage extreme events to thrive rather than merely survive. And because this "thriving" outcome appears to occur so infrequently during extreme contexts, it exposes the barriers to making the quantum leap toward more successful and satisfying results.
- j. Chapter ten considers the resulting implications for the New Zealand security sector, including any changes required as a result of factors exposed through contemporary events and the inductive nature of the research methodology. While not explicitly forming part of the original research questions, the need for this chapter emerged as an unexpected but logical progression of the thesis findings.
- k. Chapter eleven draws the thesis to a conclusion, highlighting several of the findings from the research, deriving those takeaways available, and proposing candidates for further research.

Time Stamp

This thesis includes material on the current Covid 19 pandemic. While this situation continues to evolve, the thesis takes cognisance of those events up to the end of July 2021. It also means that some of the early findings when the thesis was commenced in early 2020 have since been corroborated with the passage of time and the way outcomes have unfolded.

Chapter Summary

- The current limited range of research on leadership in extreme contexts is surprising and disturbing, given the range, frequency, and impact of extreme contexts throughout the

world; especially poignant, noting the global reach and tragic consequences of the current Covid 19 pandemic.

- Coupled with the knowledge that the resulting adverse situation is often exacerbated by actions and inaction by those in authority positions, there is, therefore, a pressing need for further scholarship in this tiny but critical subset of leadership theory and practice.

Blank

Chapter 2: Establishing the Gap

Introduction

This chapter summarises the scholarship highlighted as relevant during the initial literature review conducted to establish the gap and confirm the research questions. The chapter includes an explanation of the initial means of discovery, noting that as a result of the research design chosen (inductive approach and emergent case study strategy), the methodology required the literature to be further examined (later in the thesis) as the need arose to investigate emerging material and reconcile research outcomes against existing scholarship.

Discovery

Material relevant to the literature review was identified through a four-phase process, as follows:

- a. Search using electronic library resources.
- b. Search via professional associations and alumni resource libraries.
- c. Discussion with practitioners.
- d. Distillation of the resulting articles to foundation documents, concepts, and authors, to follow the trail of those who have since cited them.

Documents were discovered via the Massey University federated search tool, Discover, which simultaneously searches the significant relevant international e-journal collections and databases including Web of Science, Business Source Premier, Emerald, Wiley, ScienceDirect, PsycINFO, and JSTOR. Additionally, searches were conducted directly through SCOPUS, Mendeley, and ResearchGate.

Given the interdisciplinary nature of the topic, the nature of the research questions identified, and the sectors of potential relevance (leadership, extreme contexts, emergency management,

psychology, military, security, sport, business), early search criteria comprised a wide selection of studies. There was also recognition that leadership in extreme contexts is a transitional discipline, with the intent that some form of order is created from the sudden imposition of chaos.

Accordingly, those studies considered initially, included:

- a. General leadership, management, and command.
- b. Leadership during crises.
- c. Crises leadership competencies (note both these last two categories expanded as the definition evolved to the term "extreme contexts").
- d. Those characteristics, along with task-oriented and people-oriented behaviours featured in the afore-described articles, such as:
 - i. Decision-making and cognitive impairments.
 - ii. Luck, moral luck, and serendipity.
 - iii. Personality.
 - iv. Human performance.
 - v. Selection.
 - vi. Fast versus slow thinking.
 - vii. Intuition.
 - viii. Stress management.
 - ix. Mindfulness.
- e. Leadership – event case studies.
- f. Broader sector examples of relevance to leadership in extreme contexts, for example:

- i. High-reliability organisations (organisations successful in avoiding crises notwithstanding the complex and high-risk environments in which they operate, e.g., air traffic control, nuclear power operations, A & E department).
- ii. Sport: chess (mind retention and decision-impact analysis), cricket (decision-making and performance under stress) and motor racing (decision-making at pace). The intention here was to consider those relevant principles able to be gleaned from a parallel sector scenario with many of the factors present in extreme contexts.
- iii. Elite military units (often combining many of those factors above).

Practitioners

To supplement this material, interviews with senior operational leaders and trainers from the following (primarily public sector) organisations were arranged to ascertain the thought leaders followed by the respective organisations and any foundation theoretical concepts that featured as part of their leadership development programmes:

- a. The Ministry of Civil Defence and Emergency Management.
- b. Civil Defence Emergency Management (CDEM) Groups.
- c. Fire and Emergency New Zealand.
- d. Cricket Wellington (as an example of what other sector leadership development may have to offer).
- e. NZ Police.
- f. The NZ Government Leadership Development Centre.
- g. Maritime NZ.

h. The NZ Defence Force.

The interviews were conducted within the auspices of the Massey ethical research guidelines and practice (see Appendix A for further details), and any authors and concepts ascertained from the interviews (where relevant) were subsequently examined more thoroughly using university library resources. The intention here was to capture all relevant scholarship notwithstanding any possible omissions from potentially inadequate parameters used in the original search.

Leadership in extreme contexts: Definitions and scope

As with all research, there is a need to provide focus and clarity. The original intention was to limit the scope to public sector leadership in extreme events (primarily emergency management, emergency services, and the military). Notwithstanding this, the parameters were set wider to consider business and a critical sporting context for comparison purposes.

The following terms, including their possibilities and limitations, were examined to refine the research scope further. This was in terms of function (those features comprising leadership) and context (those circumstances surrounding and influencing the function).

Crisis

The term crisis was an early contender to ringfence those situations forming potential sample events. Crises have four defining characteristics. They are often unanticipated, create uncertainty, are considered a threat to crucial outcomes, and lastly, there is a need for change (Seeger, Sellnow, & Ulmer, 1998). However, the term crisis can be applied to small and large events when the intent was to focus on only those situations of sufficient impact and complexity to warrant action beyond an established Standard Operating Procedure (SOP) or a simple response plan.

Emergency

Universal dictionary definitions of an emergency include circumstances that pose an immediate risk to health, life, property, or environment and require immediate corrective actions. In a medical context, it comprises ready access to services, managing the unexpected, along with rapid assessment and treatment (Schneider, Hamilton, Moyer, & Stapczynski, 1998). The definitions, however, were silent on magnitude and complexity and can, therefore, include events of a small scale and simple nature.

Disaster

The term disaster differs from a mere emergency through scale and impact on society. Disasters are different from crises as they are community-based events rather than limited to a single organisation (Rodríguez, Donner, & Trainor, 2018; Seeger et al., 1998). A good definition is "A sudden event where the trigger is outside the current control of the affected area (community and/or business), the event disrupts the function of that area and requires additional resources . . . to respond to and recover from the event" (Brown, Orchiston, Rovins, Feldmann-Jensen, & Johnston, 2018, p. 68). While this implies a significant event unable to be easily controlled, it does not necessarily follow that the circumstances would be sufficiently complex and unique to demand a tailored leadership approach in the manner another definition might better articulate.

Catastrophe

As with disaster, catastrophe sometimes describes an unsuccessful outcome involving significant or sudden loss or suffering. Although, the expression can also categorise and explain how systems can experience change due to their evolving, modified, or degenerating components. The associated theory developed by Thom (as cited in Zeeman, 1976) has since been used in psychology and sport, plus emotions, such as arousal. Notwithstanding any benefits offered by the term's breadth, the intention was to focus more on those events that

were both complex and had a significant societal impact, involving a high degree of material and people risk.

Extreme Event

While crises and emergencies have formal definitions, the term "extreme events" is less precise. The term has been described as "of interest worldwide given their potential for substantial impacts on social, ecological, and technical systems" (McPhillips et al., 2018, p. 441). By inference, they are significant in either size or impact, more likely to be complex, and require response actions to be tailored accordingly. This term was initially preferred before commencing the literature review but was subsequently modified for two reasons. In New Zealand, "extreme events" can be used to describe extended distance/duration athletic events like the annual Coast to Coast multi-sport event; plus, the literature revealed a more insightful term that better articulated the proposed area of focus – extreme contexts.

Extreme Contexts

Leadership is "uniquely contextualized in extreme contexts where risks of severe physical, psychological or material consequences (e.g., physical harm, devastation or destruction) to organizational members or their constituents exist" (Hannah et al., 2009, p. 897). In their typology outlined on the following page, Hannah et al. (2009), state that some features of extreme contexts are not present in more typical contexts. They then break the term extreme contexts into four key components – the context itself, intensifiers (those factors that amplify the context), attenuators (factors applied to ameliorate the context), and the level of extremity (the resulting cumulative impact of the interaction of the previous three). This, in turn, is managed through a process they describe as adaptive leadership response. Of interest, while the associated commentary is quite explicit in describing those factors forming extreme contexts, the authors are less prescriptive when articulating those factors comprising adaptive leadership response, preferring to "make only general observations about the nature of

leadership in extreme contexts and offer more questions than answers, with the intent to stimulate thoughts for future research" (Hannah et al., 2009, p. 912).

They do however state that while extreme contexts are thankfully infrequent for most organisations, they occur more often for others such as the armed forces, police, fire, hospitals, and emergency response organisations.

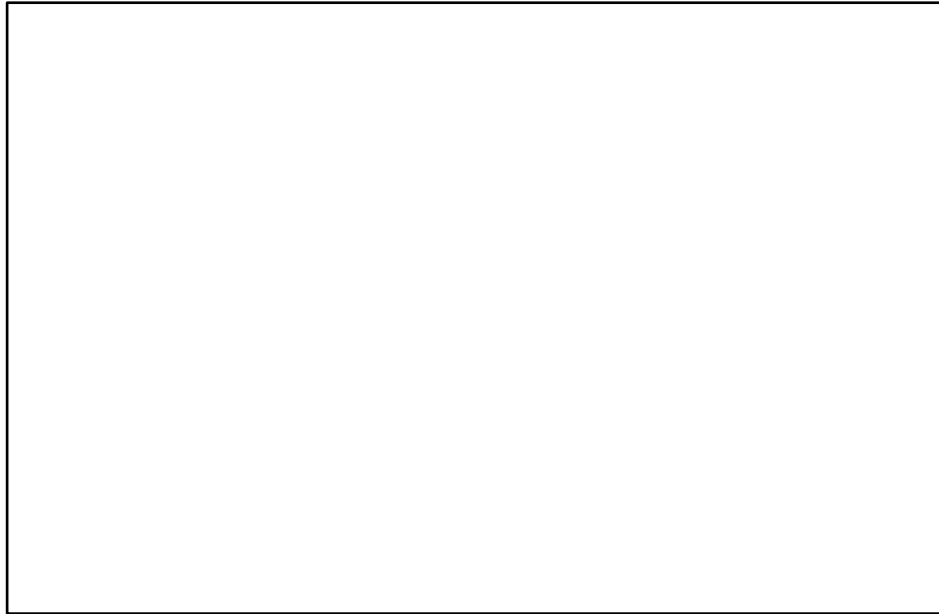


Figure 2 Typology of Extreme Contexts

(Hannah et al., 2009, p. 899)

This more contextual theory of leadership above recognises the symbiotic nature of both leadership and context. Or, put more explicitly, "leadership and its effectiveness, in large part, are dependent upon the context. Change the context and leadership changes" (Osborn, Hunt, & Jauch, 2002, p. 797). Hannah et al. (2009, p. 898) take this a step further, stating that "leadership is not just passively influenced by extreme contexts, but can interact with the context and serve to intensify or attenuate levels of extremity".

Leadership

There are so many definitions of and approaches to leadership. It is a concept that is both complex and personal. People write books on the subject (a recent search of Amazon.com

revealed over 60,000 entries), and accordingly, it is not easy to reduce the term to a concise explanation. The following selection of definitions is intended to highlight the differences in approach by the various scholars:

- a. Leadership comprises "intelligence, trustworthiness, humanness, courage, and sternness." Sun Tsu (as cited in Waite, 2008, p. 4).
- b. "Management is about coping with complexity. . . . Leadership, by contrast, is about coping with change" (Kotter, 1990, p. 104).
- c. "Managers are people who do things right, and leaders are people who do the right thing" (Bennis & Nanus, 1985, p. 21).
- d. "Leaders, like artists, tolerate chaos and lack of structure. They keep answers in suspense, preventing premature closure on important issues. Managers seek order, control, and rapid resolution of problems" (Zaleznik, 2004, p. 1).
- f. "Leadership is a process that involves personal characteristics of the leaders, the interaction between the leader and follower(s), and situational pressures" (Antonakis & Day, 2018, p. 275).
- g. Leadership comprises achieving tasks, building and developing teams, and developing individuals (Adair, 2011).
- h. Leadership is "to create the conditions for people to thrive, individually and collectively, and achieve significant goals" (Pendleton & Furnham, 2016, p. xxi).
- i. "Well, despite almost three thousand years of ponderings and over a century of 'academic' research into leadership, we appear to be no nearer a consensus as to its basic meaning, let alone whether it can be taught or its effects may be measured and

predicted" (Grint, 2010, pg. 1). Grint further categorises leadership as a position, a person, a result, and a process.

For the title of this research, the term leadership is intended in its broadest and most generic form; those exercising authority either voted, appointed, or assumed; engaging, harnessing, and channelling the efforts of others (by whatever means) to achieve the desired outcome. This authority may be via several means – traditional authority (derived from long-standing conventions, e.g., a monarch and subjects), charismatic authority based on devotion or admiration, or rational authority (via statutory appointment) (Hendry, 2013).

Leadership: Theoretical foundation

There is a plethora of theories, concepts, and tools associated with leadership, and over the years, several attempts have been made to categorise them for simplicity. Many of these would appear to have been for commercial activities (paid personal development programmes) or from sub-doctoral scholarly endeavours. The outcomes, therefore, represent a normative/prescriptive perspective rather than forming part of any theoretical spectrum.

Many summaries include the "great man" theory, theories based on traits, skills, behaviours, or situations. Other characteristics used include variables to suit a leader's style and interaction with followers (transaction versus transformational leadership). Some reflect more contemporary thinking on the topic. These explore leadership through different perspectives, recognising that no single theory accounts for all circumstances. This aspect is examined in greater detail in Chapter five.

Period	Approach	Dominant Ideas
1920s	Trait Theory	Leadership can be understood by identifying the distinguishing characteristics or traits of great leaders
1950s	Style Theory	Leadership effectiveness may be explained and developed by identifying appropriate styles and behaviours
1960s	Contingency Theory	Leadership occurs in a context and is practised differently depending on each situation: Hence Situational Leadership
1970s	Charismatic Theory	Leadership is concerned with charismatic behaviours of leaders and their ability to transform an organisation
1980s	New Leadership/ Neo Charismatic Theory	Leadership and Management are different. Leaders require a transformational focus that encompasses a range of characteristics and behaviours in addition to charisma
1990s	Emerging approaches: a. Strategic Leadership b. Change Leadership	a. Leadership may be understood by examination of strategic decision-making. b. Leadership is inexorably linked to the management of change. Leader behaviours may best be understood in the context of delivering change

Table 1 Development Thinking on Leadership in the Twentieth Century
(Pendleton & Furnham, 2016, p. 8)

Leadership: Practical Application during Extreme Contexts

In addition to a theoretical spectrum characterised by such diversity in approach, disagreement, and evolution of thought, as leadership as a concept has matured, the literature review has highlighted several other leadership concepts/tools that may help explain the factors at play in extreme contexts. These have been categorised by theme and intent, as follows:

The Executive's trinity: Management, leadership, and command.

Over the years, many scholars have examined the relationship between leaders and managers, Zaleznik (2004) and Kotter (1990) being two of the more prominent. Bungay (2011) takes this further by complementing the two approaches with a third - command. While he draws heavily on the military by way of example, he claims relevancy for business, equating command with the more generic directing function, as explained in the diagrams below:



Figure 3 The Executive's Trinity
(Bungay, 2011, p. 35)

A more detailed commentary on the model may be found on page 134. However, in the initial literature review, the concept resonated in its potential for explaining the variation in leadership approaches required in a dynamic and uncertain environment. Sometime later, the literature review revealed that the New Zealand Defence Force was using the model as a foundation concept in its leadership doctrine (New Zealand Defence Force, 2018). Later still, it was discovered Fire and Emergency New Zealand proposed using the model in their next-generation leadership approach (D. Stackhouse, personal communication, 23 April 2020).

Clumsy solutions to wicked problems

The relationship between leadership, management, and command also features as part of an approach by Grint (2008) to address problems, categorising these as either wicked, tame or critical. His typology, in turn, builds on research conducted by Rittel and Webber (1973) where they examined the challenges associated with some of society's more pressing problems. Here, Grint (2008) proposes that the individual elements of Bungay's trinity are best suited for addressing particular problem types as indicated in the following diagram:

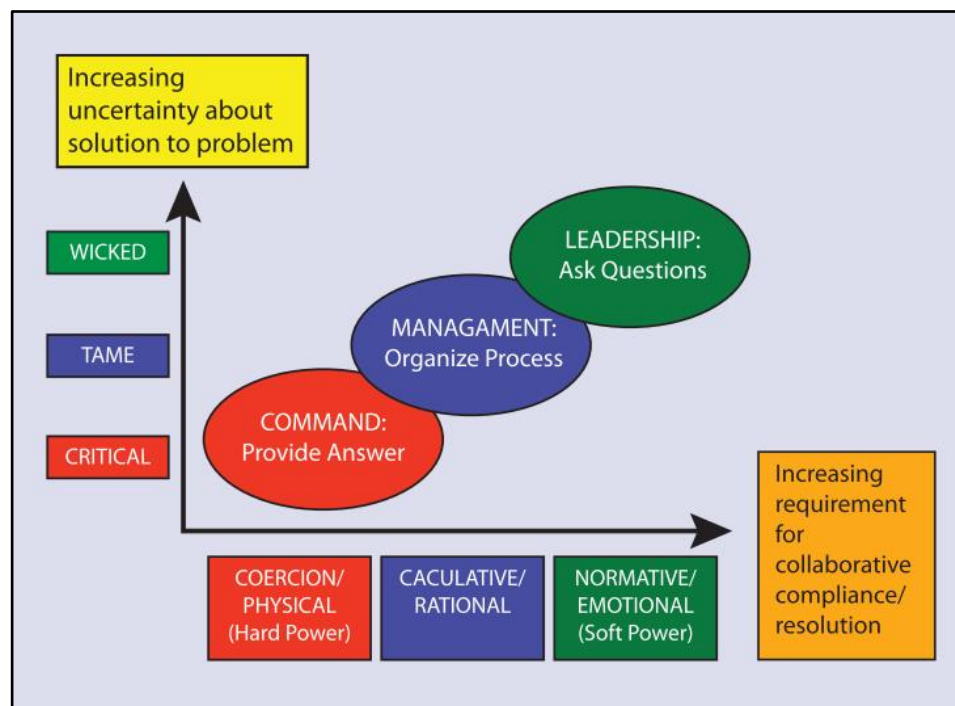


Figure 4 Typology of Problems, Power, and Authority (sic)
(Grint, 2008, p. 11 (sic))

Using this framework, Grint proposes a flexible and mixed approach to problem-solving depending on the situation, with a:

- a. Command response to critical problems (where there is little time for decision-making and action).
- b. Management approach to tame problems (those issues likely to have occurred before).
- c. Leadership; addressing wicked problems (those of a more complex nature with no clear relationship between cause and effect, and linkages to contextual factors).

While there is considerable logic to his argument, he may have failed to grasp some of the nuances associated with exercising command. In his summary on leadership (Grint, 2010), command is associated with providing answers, stating leaders, by contrast, respond by asking questions. In reality, while critical problems demand decisive responses, good commanders arrive at their decisions knowing what questions to ask. People, therefore, follow commanders not because they know all the answers but because they trust them to make the best decision in support of the mission and the team (a more detailed explanation is provided in Chapter five).

One of the other challenges with this model is that it is normative, relatively static, and non-predictive. This realisation raises whether it is helpful in a volatile, uncertain, and dynamic situation.

Grint (2008) further states that wicked problems require transferring authority from the individual to the collective (turning the situation around for those affected to solve). He does this by drawing on the ideas of Douglas (1993), who captured culture based on a two-by-two matrix, with the criteria being Grid (structure: rules and roles) and Group (affiliation). Grint (2008, 2010) orientates these ideas to the challenge at hand to suggest that only multi-faceted

(or "clumsy") solutions are capable of addressing wicked problems. Using global warming as an example, he proposes that any successful solution would need to address the needs of people in all four quadrants, as follows:



Figure 5 Matrix of Structure and Group Loyalty
(adapted from Douglas, 1993, p. 473) and (reproduced from Grint, 2008, p. 11 (sic))

Cynefin – strategy in the context of uncertainty

Contrast this to Cynefin (Welsh word loosely equated to the English word, habitat), originally a practitioner developed decision-making model produced by a team working at IBM (Snowden, 2005). The Cynefin framework helps leaders understand where they sit on a continuum of uncertainty to determine an appropriate response. Snowden's framework has five domains, four (simple, complicated, complex, and chaotic) as depicted in the following diagram, with the fifth labelled disorder (when people are unsure about the quadrant that applies) located in the middle. Rather like the typology in Figure 4, Snowden has created a series of rule-based leadership approaches to problem-solving ranging from sense-categorise-respond for simple problems, through to act-sense-respond for chaotic situations



Figure 6 The Cynefin Framework
(Snowden & Boone, 2007, p. 72)

Snowden further describes the characteristics of the four key domains, the role of the leader, along with tendencies and means to overcome these in the figure on the following page.

Both Snowden's (2005) Cynefin and Grint's (2008) clumsy solutions have similarities, which they share with situational leadership theories espoused by Hersey, Blanchard, and Johnson (2013), in Vroom and Yetton's normative model (Vroom & Jaago, 2007), and House's path-goal theory (Evans, 1996). There are also, however, subtle differences. Snowden (2005) has two categories (complex and chaos) that span Grint's (2008) wicked problem category, providing greater clarity and certainty in approach. There is a time to probe (ask questions) and a time to act, consistent with Grint's (2008) critical problem strategy. The framework also raises the conundrum of whether leaders really act before sensing, when confronted by chaotic circumstances.

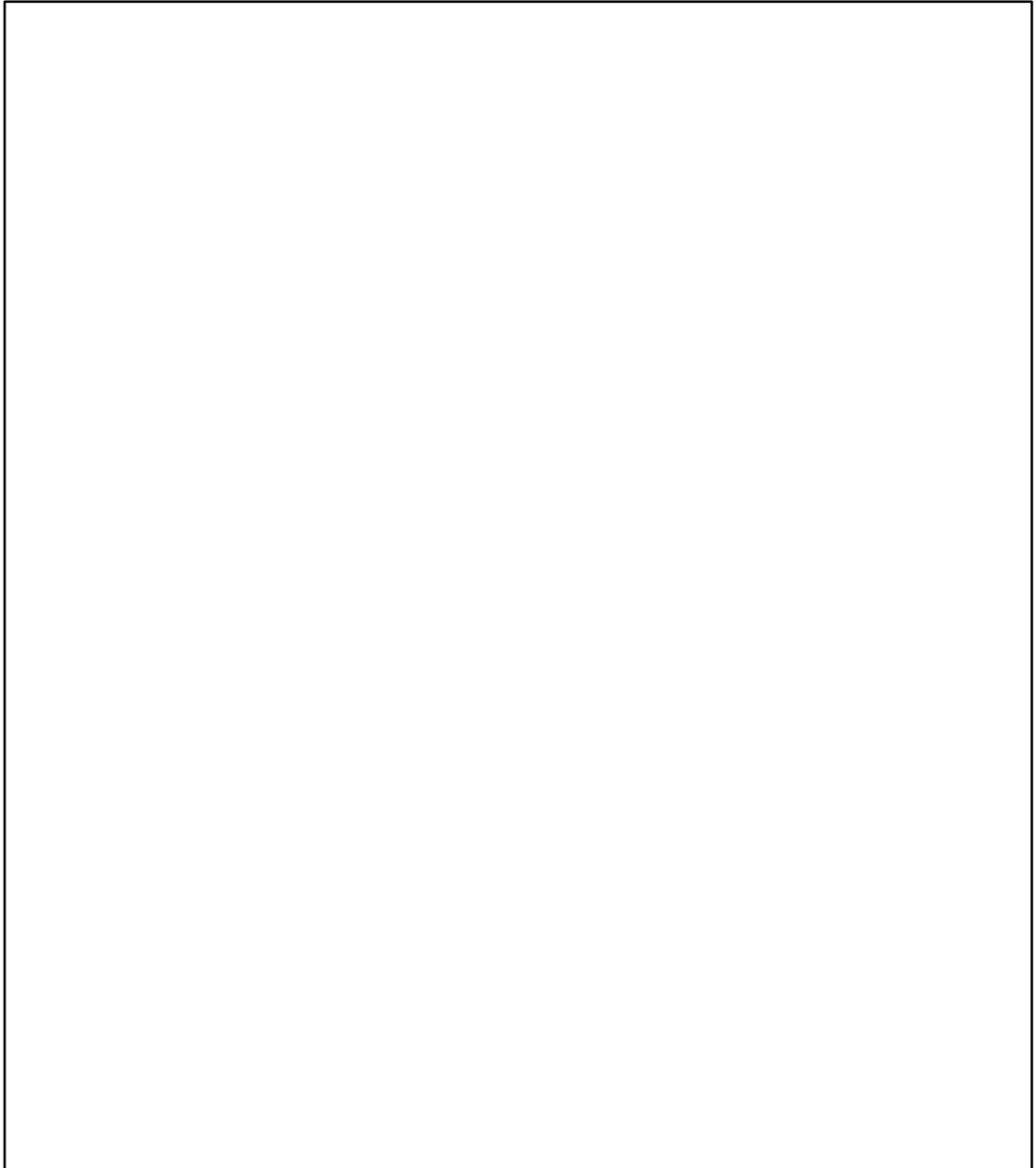


Table 2 Decisions in Multiple Contexts: A Leader's Guide
(Snowden & Boone, 2007, p, 73)

Post-Normal Science

Post-Normal Science represents a fresh approach to understanding issues in a complex, uncertain, high-risk environment where urgent decision-making is required and the knowledge required to solve a challenge falls outside established paradigms (Funtowicz & Ravetz, 1993). A simple way of depicting this is in their graph as follows:

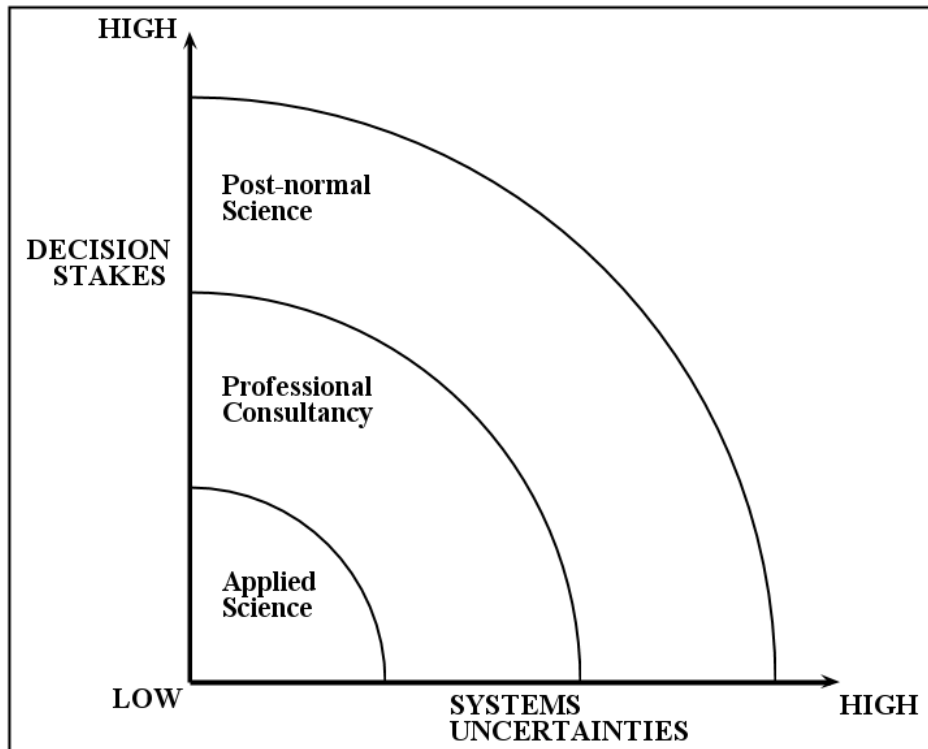


Figure 7 Problem-Solving Strategies
(Funtowicz & Ravetz, 1993, p. 745)

More recently, a team comprising Michael Tarrant and David Parsons working under the auspices of the (then) Australian Emergency Management Institute, adapted the concept for use by emergency managers, as shown on the following page.

Consistent with both Grint (2008) and Snowden (2005), the diagram in Figure 8 begins to explain the evolution/escalation of factors present when moving from a leadership/management (as usual) space to a requirement for leadership in extreme contexts. It also implies a time dimension. Much of what is necessary to support decision-making and response in all three categories must be established pre-event (e.g., SOPs, response plans, networks, and relationships, to mention a few).

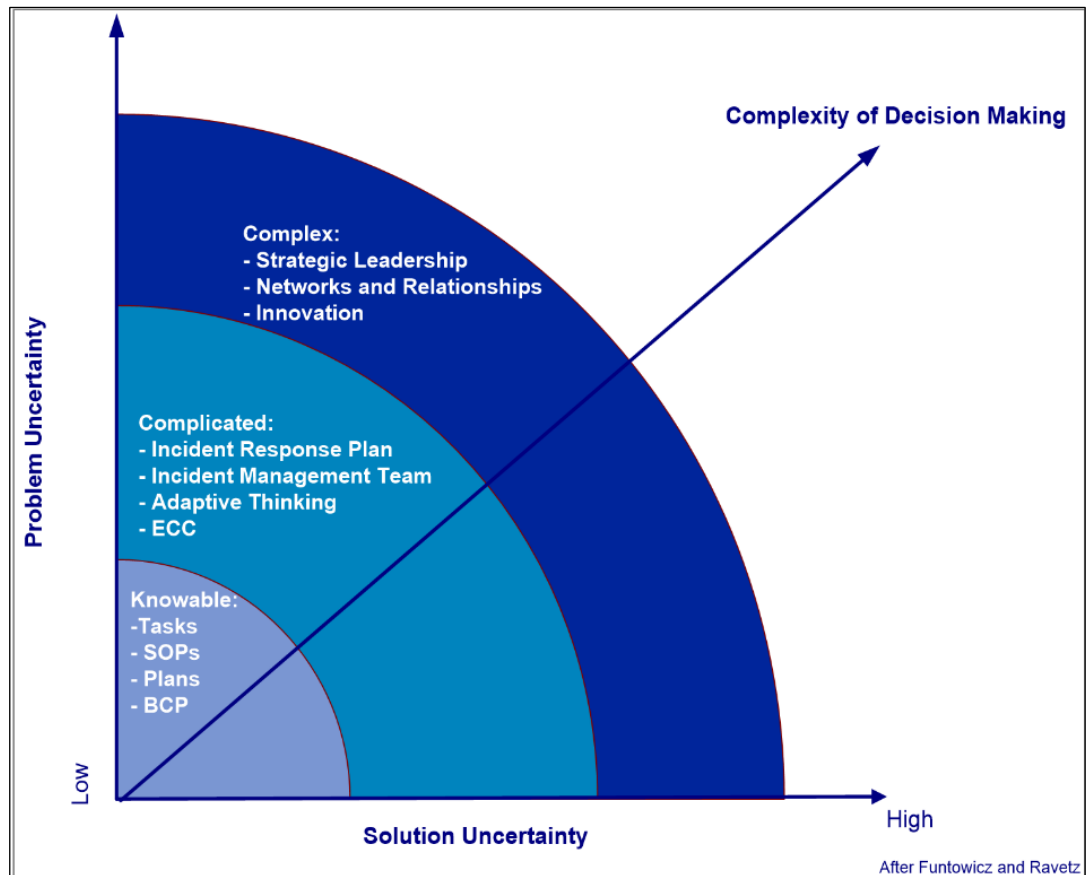


Figure 8 Decision-making Continuum across Complexity
(Tarrant and Parson's unpublished work)

This notion of pushing the boundaries of knowledge and understanding is similar to the collaborative, iterative concept of Emergent Goal Achievement (EGA) used in mainstream organisational leadership to produce applied outcomes (Coffey, 2010) and Action Research designed to produce research outcomes. Action Research which has its origins in work conducted by Lewin (1946), has since spawned several variant approaches and is explained further in the appendix on page 400.

Harvard University initiatives

One of the more authoritative sources of scholarship in this field is Harvard University and its crisis leadership training and research programme, the National Preparedness Leadership Initiative (NPLI). Over many years, they have prepared several helpful case studies, ranging from the Iowa floods in 2008 to the US response to hurricanes in 2017 (National Preparedness

Leadership Initiative, 2021b). NPLI has also published several articles related to crisis leadership concepts, three of which have been chosen to highlight as part of this initial literature review for different reasons.

The first article, *Crisis meta-leadership lessons from the Boston Marathon bombings* (Marcus et al., 2014), highlights two critical aspects of what they considered a successful response operation – meta-leadership and swarm intelligence.

Meta-leadership is a concept developed within NPLI to provide leadership and impetus against common goals during multi-agency operations where simple (intra-organisational) command and control arrangements are inappropriate.

Swarm intelligence is the fusion of inputs from multiple intelligence sources to create a single or common operating picture (e.g., a crisis management function). These complementary leadership and management examples are consistent with the need to draw on the relevant parts of the executive's trinity. This research is also highlighted because of its potential shortcomings. An examination of appendix three of their report reveals a list of thirty-three formal interviewees, including the mayor, state governor, directors, superintendents, and emergency service chiefs. The only person not in a position of authority was a news reporter.

The second article was on integrating brain science into crisis leadership development (McNulty et al., 2018). While much of the NPLI research focuses on the events, consistent with an earlier critical observation highlighted in this report about a lack of focus on leadership in extreme contexts, this article promotes a greater understanding of some of those factors necessary to develop the next generation of leaders.

The third, a collaboration between Harvard staff and practitioner departments, looks at the threat environment, using the concept, VUCA (volatile, uncertain, complex, and ambiguous). This term was initially coined by the US military, drawing on formative work by Bennis and Nanus (2004), and later promoted as having value in a civilian environment (Alkhaldi, Austin,

Cura, Dantzler, Holland, Maples, Quarrelles, et al., 2017; Alkhaldi, Austin, Cura, Dantzler, Holland, Maples, Weinkle, et al., 2017). VUCA recognises the importance of context in developing the competencies required for leadership.

Leadership as a system

The concept of leadership as a system is not new. This systems perspective has been previously described as holistic leadership used to "optimise the organization (or part of it) to create sustainable high performance in conditions of high complexity and uncertainty" (Coffey, 2010, p. 18). Accordingly, within scope is the full range of leadership factors, including the task and organisational environments (Berim & Berisha, 2014). By inference, leadership as a system involves the actions and capabilities of more than just one person. It is a chain or network delivering outcomes to followers, guided by a governance structure, contextualised by the environment, and operating on a continuum across time (before, during, and after an event).

Also, rather than only consider those functions embodied within the term leadership, the scope needs to be widened to include all forms of exercising authority, consistent with the executive's trinity (Bungay, 2011) and the typology of problems, power, and authority on page 22 (Grint, 2010). The inference here, being that leadership (in all its forms), the problem, and context are inextricably linked, requiring an integrated and comprehensive approach to addressing the challenges encountered.

As previously stated in Chapter one, only a small subset of articles on leadership in extreme contexts exist. Of these, the majority focus on the event rather than leadership itself.

Additionally, where leadership has been the focus, the spotlight has been shone on the actions and capabilities of only one person - the leader. This situation ignores the importance of those factors external to this single person in ensuring mission success. If leadership is a system, as espoused by Coffey (2010) and Berim and Berisha (2014), then no one appears to have broken

down the system to identify the individual physical components of the leadership network and examined the relationships within.

Furthermore, when determining the role and capabilities of leaders in extreme contexts, it would appear that, as a rule, only practising emergency managers, their trainers, and psychologists have been surveyed (Cwiak et al., 2017; Devitt & Borodzicz, 2008; R. H. Flin & Arbuthnot, 2002; Intagliata, Ulrich, & Smallwood, 2000; Malewska, 2018; Slaven & Flin, 1997). There has been little research on the demands on leaders as seen by governance authorities or, indeed, by followers. If these other people are bona fide components of the leadership system, no one has determined the required capabilities to define their contribution toward success. "Leadership does not exist in a vacuum" (Osborn et al., 2002, p. 798), and therefore, other components, including environmental factors, need to be considered. Current scholarship, therefore, may be omitting or masking many of the factors that contribute to good leadership outcomes.

Other factors influencing Leadership in Extreme Contexts

As part of the initial literature review, several articles on features of the leadership challenge were examined. These included (but were not limited to) cognitive bias, phronesis, heuristics, mindfulness, command and control, assessment and selection, luck/serendipity, leadership brand, swift trust, values, performance under pressure, teamwork, business, security, learning from the past, the psychology of leadership, communication, social construction, positive thinking, knowledge transfers, uncertainty, behaviour, safety, governability, and taking charge. Each has a leadership component or relevance; however, these have not always been examined in an extreme context environment. Similarly, there were several fascinating case studies, valuable theories/concepts (including Normal Accident Theory, High-Reliability Theory, Modernism/Postmodernism), as well as useful concepts from other sectors, e.g., sport – chess (mind retention and assessing decision impact), cricket (decision-making and performance

under stress), and motor racing (decision-making at pace); each with potential relevance to the primary area of focus. These deserved further, more critical examination, in line with the proposed research context and have been considered further in the discussion contained in chapters four to eight.

Theory versus practice

During the initial literature review, interviews were conducted with (thirteen) senior practitioners/trainers representing a broad spectrum of operational leadership expertise across the nation to ensure all the relevant available academic material had been captured.

This action was accomplished by asking:

- a. Do they subscribe to any particular thought leaders or have seen/gained access to any relevant resource material?
- b. Have they read/do they have access to any relevant case studies on the subject – on either the event or leader?
- c. Can they identify any existing gaps in the current development arrangements?
- d. Can they identify any opportunities for further research on the topic?

The intention was that where thought leaders or concepts were highlighted, these would then be run through the academic search engines to obtain relevant source material. Some of those interviewed referred to scholars - Grint (leadership decision-making), Mileti (social science), Adair (leadership theory), Boin, Sundelius, Stern, and T'Hart (public administration and governance), Drabek (disaster response), Hogan and Warrenfeltz (competencies and assessment), Taleb (risk and management), Olejarski (political science), Hackman (psychology), Schoenberg (communication), and Owen (emergency management learning). Others spoke of institutions and organisations (Federal Emergency Management Agency, Australian Institute of Police Management, SEALS, militaries various, and Harvard University). Practitioner/authors

Simon Sinek (motivation), Snowden (ex-IBM), plus Colin Powell, Stanley McCrystal, and David Marquet (US Military) were also mentioned. While the sample was too small to be definitive, the question arose, does scholarship produce good leaders in extreme contexts, or is the pathway led by practitioners? The answer would appear to be both.

During the interviews, several raised the inadequacy and ad-hoc nature of current leadership development initiatives related to their employment. Many of these were considered quite insular and allowed only a limited degree of cross-pollination with response partners.

Defining the Gap

With the literature review complete, the feeling was one of haunting realisation, mirroring Grint (2010) in his epiphany:

When I began reading the leadership literature in about 1986, I had already spent some time in various leadership positions, so at that time I'd read little but understood everything about the subject from the University of Life. Then, as I read more material, I realised that all my previous 'truths' were built on very dubious foundations, so my understanding decreased as my knowledge increased (p. 1).

In short, it would have been advantageous to have known at least some of this material during the forty-two years spent as a leadership practitioner, and even then, the literature revealed more questions than answers. In some cases, where knowledge had been acquired, its authenticity was found to be questionable, and several significant gaps were identified, the most notable being:

Heading	Addressed In thesis	Scholarship Gap	Key References	Linkages to Research Questions
Lack of targeted scholarship	✓ Chp 1,2	A limited set of research focuses on the "leadership" function in extreme contexts as distinct to either general leadership principles (during business-as-usual activities) or the circumstances surrounding the subject extreme event.	(Deverell, 2012; Hannah et al., 2009; Porter & McLaughlin, 2006)	
Poor understanding of leadership as a system	✓ Chp 4	A lack of scholarship in those physical and conceptual elements that comprise the leadership function. If leadership is to be viewed as a system and not the actions of a single individual, then those system entities/components (during extreme contexts) have not been well-articulated, nor have the resulting linkages and tensions between each, been examined in any detail.	(Coffey, 2010; Hannah et al., 2009)	RQ 1
The importance of those being led	✓ Chp 4,6,7,8	Inherent in the term leadership is the mood, motivation, and actions of those people being led.	(Northouse, 2019; Zaleznik, 1965)	RQ 1
Cultural leadership styles	✓ Chp 5	The majority of the material considered part of the literature review was Euro/American centric, with the obvious question, is leadership theory and practice influenced/determined by culture? Of greater relevance, is valuable material from other cultures being excluded from local leadership development programmes? Can the situation here in New Zealand be extrapolated to meet the needs of a global audience?	(Hofstede, 1980; Nisbett, 2019)	RQ 1

Appropriate means of exercising authority	✓ Chp 5	There is a general lack of understanding of the composition and application of the various ways people exercise authority (governance, command, leadership, and management).	(Geier, 2016; Grint, 2010; Hannah et al., 2009)	RQ 1 and 2
Capability development gaps	✓ Chp 8	Where competencies for leadership in extreme contexts have been identified, this has been mainly from emergency managers rather than those other entities comprising the leadership system. Competencies identified do not always reflect the full capability and capacity associated with the leadership function. Little work has been conducted (or is publicly available), critically examining those differentiating factors between business-as-usual and extreme contexts.	(Cwiak et al., 2017; Devitt & Borodzicz, 2008; R. Flin & Slaven, 1996; R. H. Flin & Arbuthnot, 2002; Intagliata et al., 2000; Malewska, 2018; Van Wart & Kapucu, 2011)	RQ 2
Where is the drive to thrive?	✓ Chp 9	What factors enable leadership in extreme contexts to leverage the situation to thrive rather than merely survive?	(Bailey, 2021; Kahneman, 2011; Niemiec, 2019; Nisbett, 2019; Schoemaker, 2002)	RQ 3
Fragmented national security sector	✓ Chp 10	National strategy, policy instruments, and structures do not fully reflect changes to the security sector's definition and scope	(Hoverd, Nelson, & Bradley, 2017; The International Security Sector Advisory Team, 2012)	

Table 3 The Scholarship Gap

Chapter Summary

The literature review revealed a small but spirited set of scholarship with relevance to public sector leadership in extreme contexts, the contents of which fell short of adequately addressing the research questions posed on page 5.

And, while it revealed several useful concepts and models for exercising leadership in extreme contexts, most of which had never formed part of any formal (or informal) development programme undertaken by the thesis author, it left many questions unanswered.

- Was a static, normative suite of western leadership theories and practice capable of meeting the challenges of dynamism present during extreme contexts?
- How do (or should) leaders exercise authority during crises?
- How can effective structures and policy instruments be developed to cater for extreme contexts when nobody has mapped the full extent of the current (“as is”) leadership system or, indeed, proposed a “to be” model?
- What is the role of the general public (the people) in achieving successful outcomes during extreme contexts, and what contextual elements and nuances influence their perceptions and actions?
- How do we develop a set of leaders capable of leading effectively during volatile, uncertain, complex, and ambiguous situations?
- Lastly, are we satisfied with mere survival during an extreme context; should society demand a higher outcome standard – thriving?

This situation provided the ideal invitation for further targeted and more in-depth research.

The methodology employed to achieve this is explained in the following chapter.

Chapter 3: Research methodology

Introduction

This chapter aims to outline the logic, methodology, and workflow comprising the eventual research design. Included is an evaluation of the options considered, the reasoning and intent behind the path chosen, and the change in research strategy made to grasp the opportunities presented as a result of the Covid 19 pandemic, noting the thesis research commenced in 2018, roughly eighteen months before the emergence of Covid 19.

Declaring biases

Before embarking on a discussion of appropriate research methodologies, it is important to state for the record the researcher's background along with an acknowledgement of any potential biases. "In order to understand alternative points of view it is important that a theorist be fully aware of the assumptions upon which his perspective is based" (Burrell & Morgan, 1979, p. ix).

This knowledge and experience base traverses the full spectrum of exercising authority (including governance, leadership, management, and command). The author was a Naval Officer of 36 years, has served on several boards (some as chair), and more recently, spent six years at the helm of Emergency Management in the Wellington Region during a time of several extreme contexts.

This particular research had its genesis in a great deal of personal reflection, having experienced leadership challenges during extreme contexts, along with a natural curiosity that comes from wanting to better understand the social, physiological, and psychological forces at play during such contexts. The potential for bias was partially offset by the inductive approach

used during the research, the strength and diversity of those interviewed during the data collection phase (Appendix C), and mindfulness of the five families of biases¹ (Sibony, 2019).

Social science conceptual framework

When designing an approach to research, there is a handy framework that positions organisational theory within a social science setting (Burrell & Morgan, 1979). This framework comprises four sets of assumptions - ontology, epistemology, human nature, and methodology, which, in turn, may be viewed through a different lens depending on whether the social world is seen as hard and external to the observer (objective) or softer and more personal (subjective).

Looking at this in greater depth and using the definitions provided, Table 4 represents the resulting practitioner-based reality/personal bias (shaded categories), thus providing a cognitive baseline to determine the optimum research approach for deployment. In summary, this approach may be categorised as mixed, subjectivist (ontology, epistemology, and methodology), and objectivist (human nature): characterised as nominalist, anti-positivist, determinist, and ideographic.

¹ Pattern recognition, action-orientated, inertia, social, and interest biases

Subjective Approach		Objective Approach
Nominalism is “the position based on the assumption the social world is constructed from nothing more than names, concepts and labels which are used to construct reality.”	Ontology The philosophical study of what is fundamentally real	Realists maintain that the “social world external to individual cognition is constructed on hard, tangible, and relatively immutable structures.”
Anti-positivism adherents believe that “the social world can only be understood by those who are directly involved.”	Epistemology How we understand things and then communicate this as knowledge	Positivism “attempts to explain the social world through established patterns and understanding cause and effect, or as seen through the eyes of an observer.”
Volunteerism “views man as completely autonomous and free-willed.”	Human nature Relationship between humans and their environment	Determinists see “man and his activities as determined by the situation and environment.”
Ideographic methodology “emphasises the importance of allowing the subject to unfold its nature and characteristics during the investigation.”	Methodology	The Nomothetic approach gives “weight to the importance of basing research on systematic protocol and technique – or testing hypotheses per the canons of scientific rigour.”

Table 4 A Scheme for analysing assumptions about the nature of Social Science
(assembled from Burrell & Morgan, 1979, pp. 1-8)

Looking more specifically at the research topic, in particular, the people component of situations of extreme context, Burrell and Morgan (1979, p. ix) maintain that a “*vast proportion* of theory and research is located within the bounds of just one of four paradigms” (emphasis added). In coming to this conclusion, they built on the Order - Conflict debate of the 1950s where opposing groups of sociologists either emphasised the nature of society characterised as stable, integrated, coordinated, and agreed; versus change, disagreement,

and forced compliance; subsequently rationalised by them as regulation and radical change.

This ideology debate, they then reduced to a two-by-two matrix, as shown in Table 5.

The paradigm which correlates most closely with the proposed approach is Interpretive (shaded in the matrix). This approach sees the researcher understanding the world through the experience of others (Cavana, Sekaran, & Delahaye, 2001).

		The sociology of radical change			
		Radical Humanist	Radical Structuralist		
Subjective		<p>“Committed to a view of society which emphasises the importance of over-throwing or transcending the limitations of existing social arrangements.”</p> <p>Nominalist, anti-positivist, voluntarist, and ideographic</p>	<p>“Committed to radical change, emancipation, and potentiality in an analysis which emphasises structural conflict, modes of domination, contradiction, and deprivation.”</p> <p>Realist, positivist, determinist and nomothetic</p>	Objective	
		<p style="text-align: center;">Interpretive</p> <p>“Informed by a concern to understand the world as it is. It seeks explanation within the realm of individual consciousness and subjectivity, within the frame of reference of the participant as opposed to the observer of the action.”</p> <p>Nominalist, anti-positivist, voluntarist, and ideographic</p>	<p style="text-align: center;">Functionalist</p> <p>“Characterised by concern for providing explanations of the status quo, social order, consensus, social integration, solidarity, need satisfaction, and actuality.”</p> <p>Realist, positivist, determinist, and nomothetic</p>		
		The sociology of Regulation			

Table 5 Four Paradigms for the analysis of Social Theory
(assembled from Burrell & Morgan, 1979, pp. 21-37)

However, in seeking to understand society within just one of these paradigms, it is crucial to know that the nature of leadership in extreme contexts is not static. It occurs in dynamic circumstances, where the desire is to create order from chaos (using the terms associated with the 1950s sociology debate outlined above). Accordingly, leaders in extreme contexts will need

to understand that they must cater for people whose approach to the situation and the tensions resulting will likely fall within one of those (and therefore collectively, all of the) four paradigms. This approach is consistent with that espoused by Grint (2008), on page 22, recognising that multifaceted (or clumsy) solutions may be necessary to address wicked problems. It may also partially explain the leadership challenge associated with acceptance of change during the recovery phase following a significant event, e.g., the situation post-Christchurch earthquakes (Paton, Johal, & Johnston, 2014).

Research design

In addressing the research questions on page 5, taking account of the exercise in self-awareness, and being cognisant of the intricacies of the research topic, Leadership in Extreme Contexts, the research approach was constructed using (in part) the research onion framework (Saunders, Lewis, & Thornhill, 2016). This model sees the researcher start with the relevant philosophy and then determine the appropriate: approach to theory development, methodological choice, research strategy, time horizon, and finally, techniques and procedures. This research design (owing to the lack of relevancy of some categories) has been simplified to philosophy, approach, strategy, and data collection methods.

Research philosophy

There is little agreement amongst scholars as to the number or nature of the various research philosophies. Saunders et al. (2016) provide five major philosophies: positivism, critical realism, interpretivism, postmodernism, and pragmatism. While the previous analysis has established interpretive is the most relevant philosophy, they are not exclusive, with realism bridging the spectrum that sees positivism at one end and interpretivism at the other. Realists understand that knowledge is insufficient on its own and requires complementation by using “theoretical frameworks to determine the underlying mechanisms that influence people’s actions” (Stiles, 2003, p. 265). On the other hand, Interpretivism gives meaning to social

arrangements and contexts, looking at things from a personal point of view. The approach to research philosophy may therefore be summarised as follows:

Research Philosophy	Positivism Realism Interpretivism Postmodernism Pragmatism
Research Approach	
Research Strategy	
Data Collection Method	

Table 6 Research Strategy Framework Level 1
(adapted from the research onion in Saunders et al., 2016, p. 124)

Research approach

According to Saunders et al. (2016), the two most common research approaches are inductive (led by data) and deductive (led by theory). Another - abductive, has been described as forming the best explanatory hypothesis (McAuliffe, 2015). Given this is to be a data-led research project, an inductive approach is considered appropriate. Note, there is one variation to this, in that Chapter four tests the hypothesis that leadership is a system. However, the final system's outcome is derived from the input from those interviewed.

Research Philosophy	Positivism Realism Interpretivism Postmodernism Pragmatism
Research Approach	Deductive Abductive Inductive
Research Strategy	
Data Collection Method	

Table 7 Research Strategy Framework Level 2
(adapted from the research onion in Saunders et al., 2016, p. 124)

Research strategy

Apart from the one fixed hypothesis for testing, the research questions are looking to capture a position(s) from those who have experienced the situation (anti-positivist), therefore, using a qualitative research approach in the first instance appears logical. Qualitative analysis provides an exploratory means to understand human behaviour, taking data from interviews,

observations, and documents to find meaning. “The qualis world is complex, dynamic, interdependent, textured, nuanced, unpredictable, and understood through stories, more stories, and still more stories” (Patton, 2015, p. 87).

Of the many qualitative methodologies, there is little congruence amongst scholars. Locke (2001) states three as significant; ethnography, case study, and action research, substantially overlapping a fourth, grounded theory. Morse (2009), on the other hand, states that grounded theory is probably the most commonly used qualitative method. Patton (2015) refers to 16 different theoretical approaches. Of these 16, several were considered to offer value in this instance (Case Studies, Ethnography, Heuristic Inquiry, Complexity Theory, Systems Theory, Action Research, Phenomenology, and Grounded Theory). However, on examination, most of these were discounted in favour of Case Study as the primary research strategy, supported by Ethnography. A summary of those strategies considered but discounted is contained in Appendix B.

Case studies

Case studies involve the examination and reporting of real-life situations to establish common elements and effective strategies. The methodology has a long and robust pedigree in social and natural science and the humanities. Whether the examples used are history, medical research, linguistics, anthropology, political science, management, or organisational dynamics, case studies have been central to using a limited set(s) of data to understand better a larger population of similar cases (Gerring, 2017). As a flexible research strategy, it supports different approaches, in this case, categorised as either orthodox linear or emergent. The orthodox approach is used where there is a clear theoretical proposition. The emergent approach is more appropriate where research is data-led (Lee & Saunders, 2017), as is the case for this research. As outlined in the following table and figure, this approach allows experiential,

empathetic, tacit, and implicit knowledge to be captured, a potential shortcoming of the more orthodox approach.

Epistemology \ Ontology	Positivist	Interpretivist
Realist	Orthodox most likely	Both orthodox and emergent studies possible
Constructivist	Not possible	Emergent more possible

Table 8 Relationship between Epistemology and Ontological Positions and Approaches to Case Studies (Lee & Saunders, 2017, p. 14)

Case studies are beneficial for understanding the how and why, and not necessarily only the what (Lee & Saunders, 2017). Given the research topic, leadership in extreme contexts, this suggests emergent case study, as a strategy, would best allow the leadership element to be examined within a given context.

Ethnography

Ethnography, or in this case, the variant auto-ethnography, uses one's own experiences to understand better the broader culture within which we exist (Patton, 2015). While the writer's personal experience was a factor, the intent was that this is one interview or perspective amongst many, as outlined in the pilot study explanation (that follows). By arranging multiple interviews in the manner described, it would be possible to capture multiple and varying realities of the same set of circumstances. While this aspect could have been incorporated into a case study strategy, the situation changed appreciably through the research data collection phase when fate intervened. The globe became embroiled in the Covid 19 pandemic. This new situation saw a rich vein of relevant research data appear on the doorstep and the thesis author once again, immersed within an extreme context, this time keeping weekend shifts as alternate Group Controller in the Wellington Region Emergency Coordination Centre. The research strategy was accordingly expanded to capture the fresh insights on offer via an ethnography strategy. While the two most important (and symbiotic) factors identified initially

for this research were leadership and context, a third, culture, emerged as a possible significant influencing factor.

Having considered all these factors, the next layer of the framework looked like this:

Research Philosophy	Positivism Realism Interpretivism Postmodernism Pragmatism
Research Approach	Deductive Abductive Inductive
Research Strategy	Ethnography Case Study Heuristic Inquiry Complexity Theory Systems Theory Action Research Grounded Theory Phenomenology Reality Testing Realism Social Constructivism Narrative Inquiry Ethnomethodology Symbolic Interaction Semiotics Pragmatism Hermeneutics
Data Collection Method	

Table 9 Research Strategy Framework Level 3
(adapted from the research onion in Saunders et al., 2016, p. 124)

Data collection methods

The primary means for data collection was originally to be interviews with people who had experienced an extreme context, consistent with an interpretive approach. This method would satisfy a desire to understand how and why, not simply what, where, and who. A sociologist vetted the questions to avoid bias from poorly designed questions or reflexivity (people stating what they believe the interviewer wants to hear). The evidence collected was then corroborated against documentation related to the events concerned, with the findings cross-referenced with the scholarly material identified during the literature review phase. In some cases, interview questions were modified, as earlier versions elicited inconclusive or meaningless responses.

As a result of the changes made to incorporate Covid 19 response operations, interview data was supplemented by observations, with data sourced from (traditional as well as social) media as well as first-hand observations arising from being immersed in the response itself. This situation saw the final layer of the research strategy framework completed as follows:

Research Philosophy	Positivism Realism Interpretivism Postmodernism Pragmatism
Research Approach	Deductive Abductive Inductive
Research Strategy	Ethnography Case Study Heuristic Inquiry Complexity Theory Systems Theory Action Research Grounded Theory Phenomenology Reality Testing Realism Social Constructivism Narrative Inquiry Ethnomethodology Symbolic Interaction Semiotics Pragmatism Hermeneutics
Data Collection Method	Surveys Interviews Focus Groups Workshops Documentation Observations

Table 10 Research Strategy Framework Level 4
(adapted from the research onion in Saunders et al., 2016, p. 124)

Research structure

Having settled on Case Study as the primary research strategy and noting the research was to be “data-led,” the following template guided the fieldwork phase of the research. Rather than the more orthodox linear approach, this emergent approach was to future-proof the workflow if fresh/alternative factors/concepts became apparent later during the process, thereby avoiding any requirement to backtrack.

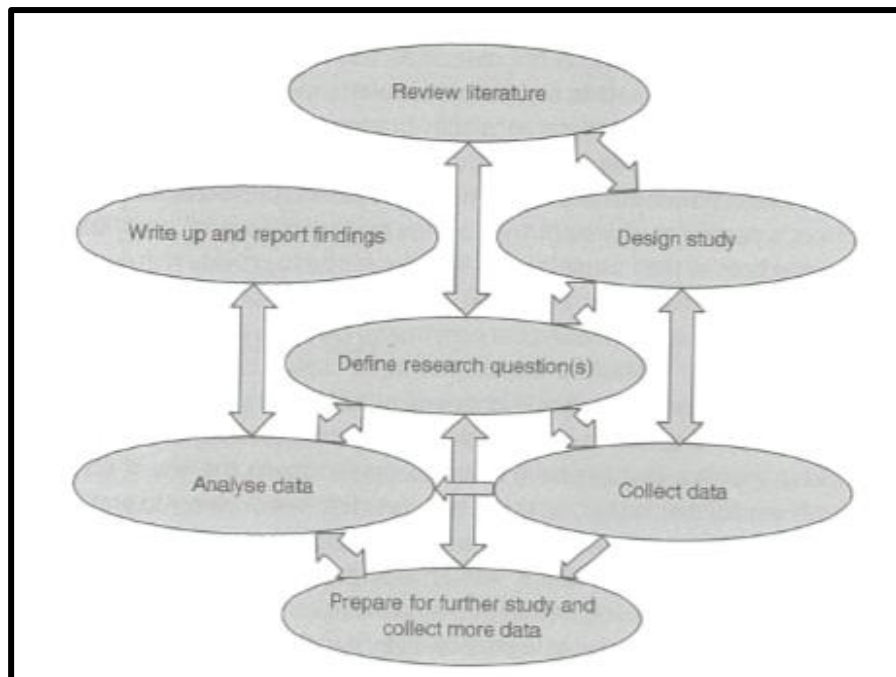


Figure 9 Emergent Approach
(Lee & Saunders, 2017, p. 7)

Case Study design

Yin (2014) advises there is no set codification for case study design. However, he does provide five critical components of case study research design: the question(s), the proposition (if any), units of analysis, logic linking the data to the proposition, and criteria for interpreting the findings. There is also the matter of explanatory versus exploratory when settling case study design, with explanatory selected as the preferred approach.

Yin's critical components are considered in more detail as follows:

The questions

This research had its genesis in personal reflection and curiosity; understanding leadership challenges; not simply the who, when, what, and where; but more specifically, the how and why. The case study strategy is particularly suited to addressing these last two criteria. The original questions posed before the literature review and subsequently confirmed through the resulting scholarship gap were identified as:

- a. What are the leadership systems necessary to deliver more successful outcomes in extreme contexts and what is the standard for measuring success?
- b. What are the leadership capabilities required during extreme contexts and how do these differ from those capabilities required during business-as-usual conditions?
- c. Lastly, through effective leadership, how can we leverage these unfortunate events to thrive rather than merely survive?

The proposition(s)

The triple propositions underlying the questions above were that there is more to leadership than a single person's actions. Not all leaders possess the capability to lead in extreme contexts, and simply surviving in these situations is not enough.

Units of analysis

As previously stated, while not intending to generate case studies for selected events, interviews were conducted with a particular event in mind to provide context. This approach allowed linkages between leadership and context to be explored further, taking the lead from the literature review findings. The unit of analysis for the primary and subsequent studies was people in roles impacted by extreme contexts. Clarification of how this was structured is as follows.

Pilot Study

After considering those options available, it was decided to commence with a single pilot study initially. While several events were considered possibilities, the event selected to pilot the initial interviews was the 2016 Kaikōura series of events impacting the Wellington region. The reasoning was that the proximity and availability of key personnel and the associated events representing a particularly complex set of circumstances would likely test the full range of data collection possibilities.

This context saw multiple events impacting the region, some concurrently and others consecutively; including a 7.8 magnitude earthquake, an associated tsunami, a storm (with 140kph winds), torrential (localised) rain, major slips, widespread flooding, a small tornado, and (thankfully) only limited after-shocks. This set of circumstances resulted in, amongst other things, significant building damage and restricted access throughout the region (with at times, state highways one, two, and fifty-eight, along with rail networks inoperable). This situation, in turn, led to panic, confusion, inconvenience, and reduced public confidence in the public's ability to go about their everyday lives safely. At its height, within the region, seven Emergency Operation Centres were activated to deal with the events, one remaining in operation for 12 days before handing over to the city's recovery team.

In early 2020, it became clear that the world was about to experience its most significant extreme context since perhaps World War II. As a result, the single pilot study strategy was expanded to take advantage of the rich vein of research material arising from the Covid 19 pandemic. This event was global, encompassing a broad spectrum of factors, including significant loss of life, plus associated health, social, economic, psychological, and security impacts for survivors. Covid 19 spawned numerous different approaches and actions to meet the challenges arising from the pandemic by both leadership and population, which in turn, produced many outcomes of varying success across the dimension of time.

In the case of both pilot studies, the following perspectives or dimensions were adopted to provide depth, intensity, and phase of approach:

Role (depth)

On the assumption of a systems approach to leadership (as distinct from leadership being the actions of a single person), the intention was to interview those in leadership roles and roles that interacted with leadership. This approach was to ascertain the leadership system's entities and concepts and better understand the resulting relationships' requirements, expectations, and tensions. Accordingly, the following diagram was constructed from the literature review to be validated, refined, and expanded as the research progressed.

The eventual list included commanders/controllers, response staff, a Recovery Manager, members of the public, a politician, the media, and Chief Executives (central government, local government, and business). A more detailed profile of interview participants is included in Appendix C. Interviews were conducted on a non-identifiable attribution basis.



Figure 10 Initial System Sketch

Hierarchy (or intensity)

While the diagram above indicated the roles to be included, these were intended to be examined within relevant echelons or hierarchies to provide an intensity dimension (foreground data and a more contextual background). For instance, during the Kaikōura series of events, there were three controller levels: the National Controller, Group (Regional) Controller, and Local (City) Controller, all impacting the scene in Wellington; each with their governance arrangements and agency partners. The foreground dimension comprising Group and Local Controllers (whose primary attention was on Wellington) was the ultimate focus,

particularly their experiences, perceptions, and reflections. The background dimension complemented this approach to provide a broader contextual story: i.e., the National Controller and those operating at the national level. This approach raised the possibility of multiple perspectives (or realities) for a similar role for the same event.

While a similar approach was adopted for Covid 19, the intensity factor was inverted with greater criticality (life and death decision-making) experienced at the national level, with support provided at a Group and Local level.

Across time (phase)

In addition to depth and intensity dimensions, there was a need to consider the phase dimension or change across time. Extreme contexts occur within a time-based continuum. Examining this longitudinally (T1, T2, T3 - before, during, and after) raised the possibility of an evolving set of capabilities for the same role. In the case of Covid, however, the approach was adjusted, noting the extended periods experienced at T2 (during the event).

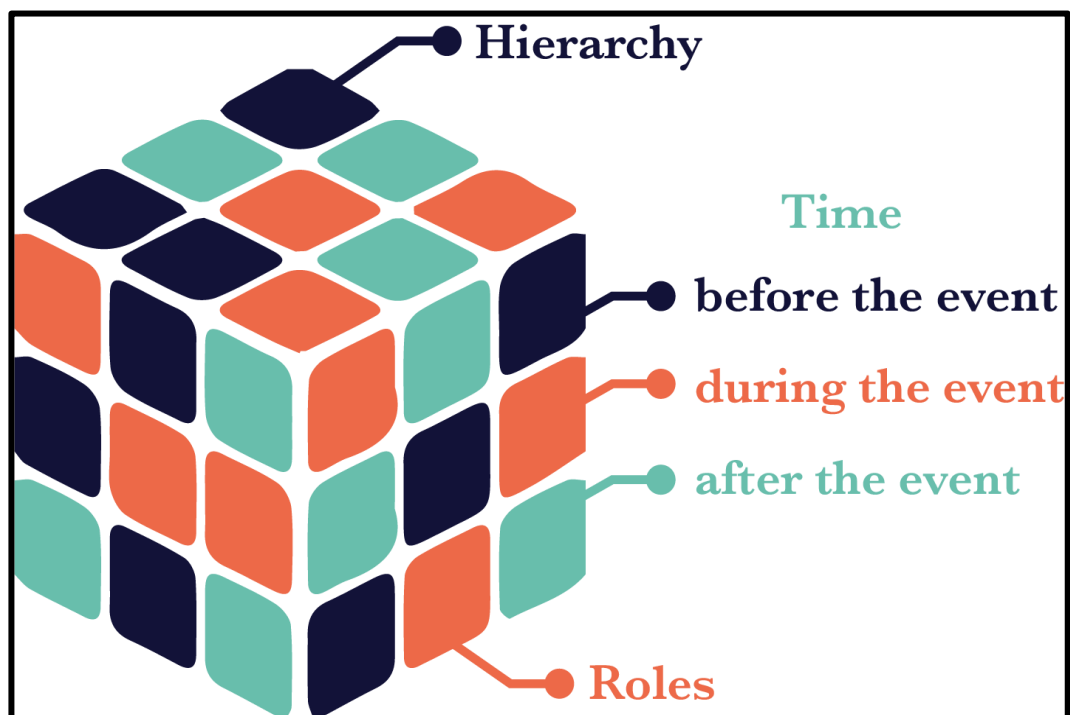


Figure 11 Three-dimensional Case Study

Note, that the diagram represented as a cube is indicative of the three dimensions of each case study. The colours assigned to blocks have no specific meaning other than to indicate multiple roles, hierarchies involved, and differences across the passage of time in each primary case study.

Further Case Studies (Breadth)

In addition to the two primary case studies, each providing a 360 perspective across three dimensions, additional extreme contexts were examined (albeit not to the same level of detail, i.e., a targeted but a reduced number of interviews) to provide a greater breadth of data. In some instances, interviewees were involved in several of the case studies, thereby allowing comparison of context characteristics along with leadership style and approach. The strategy was to widen the area of focus to include critical entities and features in other contexts to enhance the range of experience and perspectives available for analysis. Those case studies (contexts) considered explicitly for this purpose included:

- a. The Christchurch earthquakes of 2010 and 2011.
- b. The March 2019 counter-terrorism operations in Christchurch.
- c. The June 2013 Wellington storm where winds peaked at over two hundred kph.
- d. The July and August 2013 Cook Strait/Seddon series of earthquakes.
- e. The Kaikōura earthquake as experienced outside of Wellington by another CDEM Group.
- f. Australian State Emergency Service (SES) experiences (not event-specific).
- g. The Military – including military support for civil power and military/civil actions in a conflict zone (including Timor Leste, Somalia, and Lebanon).

- h. A sporting case study; in this case, a New Zealand team during a World Cup critical match decider. While the magnitude of what was at stake was completely different, the intent was to ascertain whether general principles may be applicable across other sectors.

Multi-dimensional Research

This approach resulted in the development of a diverse multi-dimensional set of data, providing depth, intensity, phase, and finally breadth:

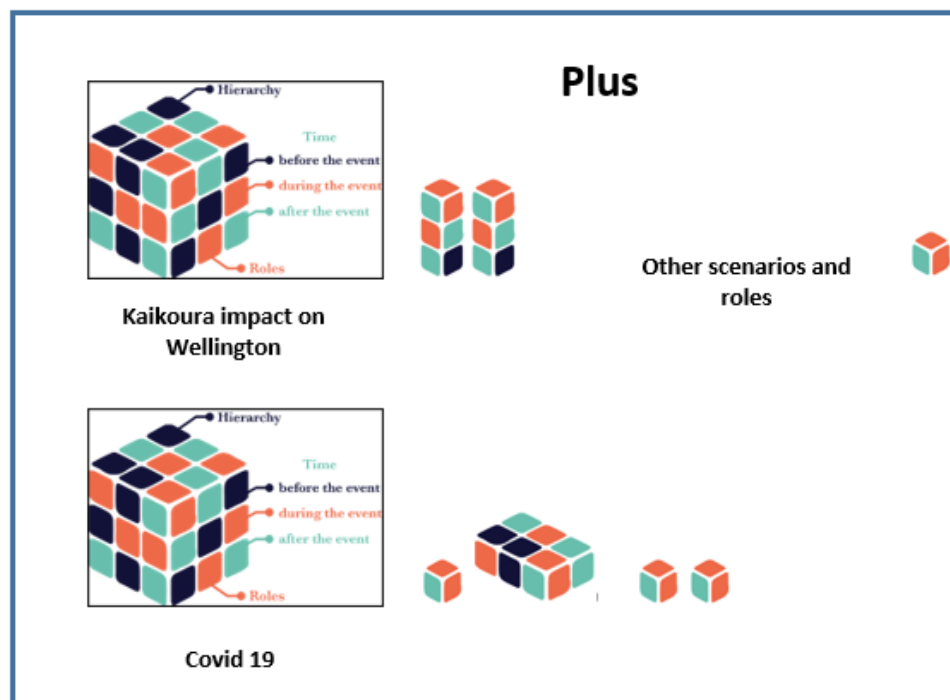


Figure 12 Four-dimensional Case Studies

These steps were a precursor to dismantling the units of analysis to identify those system entities and provide greater fidelity on capabilities specifically related to leadership in extreme contexts as distinct from generic or business-as-usual leadership. This approach might enable those managing the development pathways to differentiate those capabilities that constitute pre-requisite leadership standards and those top-up factors necessary to groom people for leadership roles during situations of extreme context.

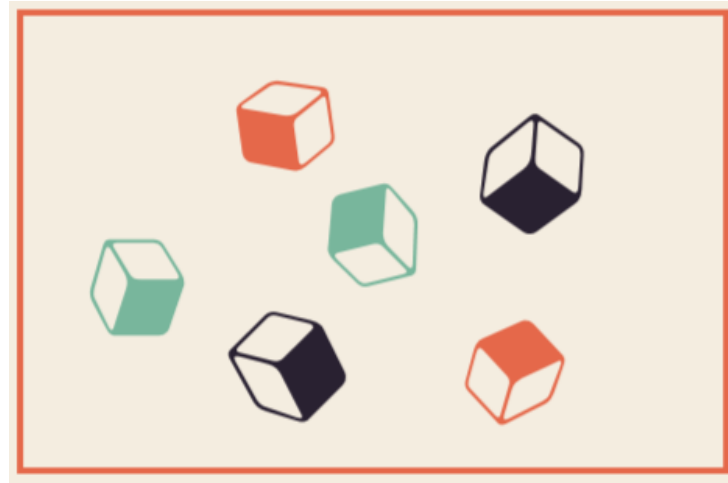


Figure 13 Dismantled units of analysis

Interviewees

Thirty people were interviewed, one person twice. Rather than reflect a representative sample of society, those interviewed were targeted to provide a broad spectrum of experience, knowledge, skills, and aptitude, along with a diversity of opinions. Interviewees were thus chosen to maximise the cumulative input available within a manageable sample. For this reason, many of those identified had multiple profiles, e.g., had experienced military command and on a separate occasion, led emergency management response operations; had led emergency management response operations and had separately had responsibilities for leadership development; or had assisted as response staff across several government organisations/departments. This approach meant that those thirty people had roughly sixty valuable profiles, some of which permitted comparisons across agencies and case studies. A summary of the profiles of those interviewed is in Appendix C.

Data for each of the two primary case studies was drawn from circa 20 interviews. For the Wellington storm – nine interviews, Seddon earthquakes – five interviews, Christchurch earthquakes – four interviews, military conflict – four interviews, Kaikōura as experienced by another CDEM Group - three interviews, Christchurch counter-terrorism operations – three interviews, and sporting scenario – two interviews. The reduced number of interviews for the latter scenarios, however, does not diminish the value of the data. As the primary focus was on

leadership rather than the context (see the unit of analysis on page 48), input from the additional contexts increased the range and depth of the leadership material gained.

For transparency, as a result of a 42-year career in the military and emergency management, with extensive contacts in central and local government, business and sport, the majority of interviewees were known to the thesis author. However, this situation is unlikely to have led to any masking of responses, or indeed, tailored embellishment. The questions were not judgemental in nature. If anything, the reverse occurred. The answers provided were frank, to the point where some interviewees then moderated the contents of their transcript (having been surprised by the depth of feeling in their responses). At the same time, other comments were masked by the thesis author to avoid identifying and offending individuals or organisations (where this did not impact the principles communicated). It was the fact that certain interactions occurred that were important, not necessarily the specific identity of those causing offence. Similarly, interviewees were given assurances that effort would be made to avoid specific (named) attribution.

Linking the data to the proposition

The process of pattern building and matching across the dimensions of role, hierarchy, and time, along with cross-case synthesis, was undertaken using thematic analysis. This approach is a flexible method of summarising, identifying, and interpreting patterns of significance within qualitative research data. Among its many uses, it has proved effective in understanding, and coding participants lived experiences and perspectives, along with their behaviour and practice (Clarke & Braun, 2017). Thematic coding is achieved through a six-step process outlined as follows:



Table 11 Phases of Thematic Analysis
(Braun & Clarke, 2006, p. 87)

A qualitative analysis computer software package, NVivo, was used to assist in organising and analysing the unstructured data to cross-examine the data to identify trends, provide relationships, and make themed observations.

Criteria for interpreting the findings.

As part of the emergent case study methodology and to aid the fidelity of the research findings, alternative explanations of research findings were anticipated, considered, and included as part of data collection. The intention was to avoid capturing data whose explanation would require further (unplanned) research to aid comprehension (Yin, 2014). Consistent with the emergent case study methodology outlined by (Lee & Saunders, 2017), meaningful patterns were investigated early and factored into the process to avoid backtracking after the case study data was complete. In addition, considerable thought went into preparing for the fieldwork, particularly refining the question sets, practising listening skills, learning to adapt in motion, being sufficiently across the issues at hand, and most importantly being conscious of the possibility of bias. As a result, the set of generic questions was modified to better target differing perspectives (i.e., Leadership versus members of the public for the same event), some questions were removed where elicited answers appeared of little material consequence, and questions were added to enable the researcher to delve more

deeply into those answers which confounded current scholarship and warranted further investigation.

Fieldwork

Collecting Case Study Evidence

Semi-structured interviews were designed with sufficient fluidity to elicit fresh and personal material while maintaining a consistent line of inquiry. Care was also taken to ensure the key focus was on the leadership component, albeit with any associated linkage with context, rather than purely on the event itself; an observation arising from the literature review. Interviewees have not been named in the interview record nor in the content of the thesis. However, a password-protected record linked by name has been kept for audit purposes. Throughout, it should be noted that the nature of the questions was non-judgemental, designed to elicit a cumulative body of issues/material rather than evaluate the efficacy of what occurred. Thus, many of the questions built on and complemented the material ascertained from previous questions. For instance, mind-mapping the various entities and concepts of the leadership system and then confirming pressure points within those entities revealed likely capabilities required of leadership. These then complemented the answers to the specific questions asked of both leaders and members of the public designed to elicit those capabilities/competencies required of operational leaders.

Collecting Ethnographic Evidence

In addition to the interviews proposed, it became apparent that there was a wealth of corroborating data just waiting to be harvested, particularly concerning Covid 19. This opportunity led to an application for ethics approval to include observation with the author participating as part of the regional response to Covid, taking note of actions, behaviours, and communications. In Covid, what became immediately apparent was the strong relationship between context, leadership, and people's actions. This situation was then recorded, debated,

analysed, and explained via the media, both traditional and social. While the veracity of much of the material could, and should, be debated, it did provide a vivid picture of perceived issues, along with cultural factors, including customs, values, behaviours, and mutual differences. The material trawl also included grey literature, including government documents, reports, and working papers. This data was also collected and collated into themes for analysis alongside the contents of interview transcripts. In several instances, the analysis outcomes spawned a re-examination of the literature where relevant issues had not been discovered as part of the original systematic review or inconsistencies with existing literature was determined, necessitating a fresh and more in-depth examination to get to the DNA of the matter.

Ethics

Four ethical research approvals were sought and granted as part of this research; two as part of the literature review (to capture authors and themes not identified using federated search tools) and the remaining two to cover source data interviews and observations. All four were assessed as low risk, given the mitigation measures outlined on page 37. No issues arose during any of the interviews to compromise this assessment. A record of the primary research applications is included in Appendix A.

Analysis (Themes)

Initial theme coding followed the intent of the research questions identified on page 5 plus those answers provided in response to questions, both in terms of context and relevant leadership component. However, this approach evolved with the emergence of data related to specific issues, i.e., gender influences and those unexpected answers. This latter category then necessitated further questions, observations, and further consideration of existing scholarship to explain emerging phenomena better. A complete list of those themes identified is included in Appendix E.

Chapter Summary

The opening chapter of the thesis highlighted the importance and limitations of current scholarship related to leadership in extreme contexts, subsequently supported by the initial findings of the literature review. This chapter explained the intent and approach to address the gaps identified in Table 3 on page 35.

While the research methodology outlined largely follows a standard exploratory path, characterised by an interpretive philosophy, inductive approach, and a mixed ethnography and emergent case study strategy, there have been several differences in approach and outcome from previous scholarship.

- For a start, the research has been conducted mainly within a New Zealand (public sector) environment, albeit with complementary input from a small number of foreign nationals working within overseas contexts.
- In addition to the wide range of scenarios examined, the research has sought a 360-degree perspective of those factors investigated. By understanding how a more extensive cross-section of society sees leadership and extreme contexts within the realm of individual experience(s), this research attempts to provide a more nuanced approach, enabling a greater understanding of not only the what, when, where, and who; and more specifically, the how and why.
- Whereas a system's view of leadership is not new, attempts to define "the system" during extreme contexts and then critically examine system components have not been previously undertaken to the degree that:
 - Permits a complete understanding of all those entities involved.
 - Examines the challenges this presents for leadership development programmes.
 - Strives for a higher standard of outcome than survival.
 - Analyses the findings within the modern definition of the security sector.

- This is the line of approach that continues through into the following chapters.

Chapter 4: Leadership System during Extreme Contexts

Introduction

This chapter investigates the case for viewing leadership during extreme contexts as a system (Research question one) and identifies existing models within other sectors that help explain the value of such an approach. By taking input from a broad cross-section of society with experience across a wide range of extreme contexts, those entities identified during interviews are used to build an “as is” systems model. The relationships between system components are then examined to better understand the opportunities and impediments to system optimisation and successful mission completion.

System Models

Apart from the Coffey (2010) book, “A Systems Approach to Leadership (How to create sustained high performance in a complex and uncertain environment)” and the Hannah et al. (2009) concept model on page 17, there is only a limited set of scholarship that articulates or even confirms a leadership system for extreme contexts.

This apparent lack of clarity was reinforced early in the interview process.

“Ok, I might find it a bit difficult as I am not sure I fully understand. . . . the context or I don’t necessarily buy into the notion or premise, I guess, that leadership is a system” (Interviewee 2 - Controller, personal communication, October 10, 2019).

“You are assuming there is a system” (Interviewee 7 - Recovery Manager, personal communication, November 11, 2019).

However, support for such a systematic leadership model is available from an unlikely source. In his article, “The enemy as a system”, Warden (1995), arguably the leading Air Power theorist in the USA during the post-World War II period, proposed a Five Ring Model designed to allow strategic airpower to target the enemy more effectively and efficiently. This model outlined on

page 63 can best be described as a series of prioritised targets (comprising leadership, support systems, infrastructure, people, and fighting mechanisms) in descending importance. By targeting the centre mass, strategic airpower can eliminate the outer layers of the system. This approach is similar to the way militaries use Effects Based Operations (EBO) to target enabling factors, causing a cumulative and synergistic series of events, with cascading second, third, and fourth-order (collateral) effects.

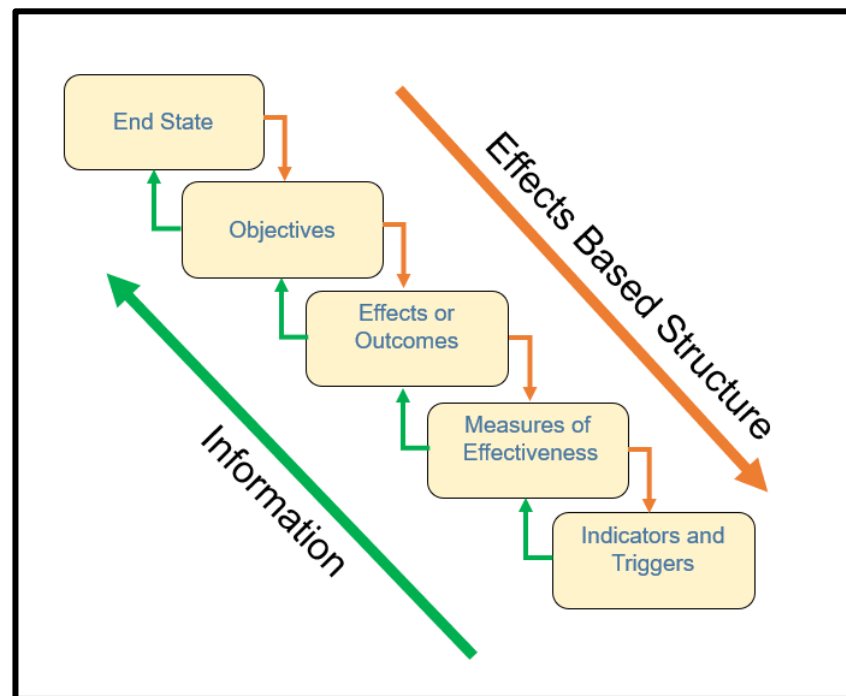


Figure 14 Effects Based Operations

(Source, unknown. Believed to originate from military doctrine. Retrieved from thesis author's business presentation slides)

Warden's Five Ring Model

Warden's model was devised to explain how air power could overcome the traditional need for militaries to initially engage at the extremities before aiming for the enemy's centre of mass. To identify those key elements forming the inner cores and understand the relationships and therefore any resulting cascading impacts, Warden proposed a concentric circle model as follows:

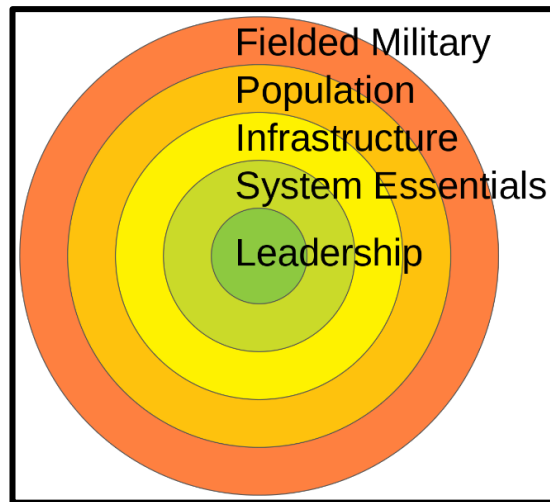


Figure 15 Five Ring Model
adapted from (Warden, 1995, p. 47)

To Warden, this was a universal system model regardless of the nature of the target, be it a state, drug cartel, or an energy grid, as explained in the following table.

	State	Drug Cartel	Energy Grid
Leadership	Government <ul style="list-style-type: none"> • Communications • Security 	Leader <ul style="list-style-type: none"> • Communications • Security 	Central control
System Essentials	Energy (electricity, oil, food) and money	Cocoa source plus conversion	Input (heat, hydro) and outputs (electricity)
Infrastructure	Roads, airfields, factories	Roads, airways, sea lanes	Transmission lines
Population	People	Growers, distributors, processors	Workers
Fighting Mechanism	Military, Police, Fire	Street Soldiers	Repairmen

Table 12 Five Ring System Elements
(compiled from Warden, 1995, p. 44)

Its simplicity was to aid understanding. For strategic targeting purposes, however, the model was more complex. Since the model was published, there has been considerable discussion about its relevance in all theatres of war. However, notwithstanding this, the notion that

leadership is part of (surrounded by) a system that encompasses both materiel² and people assets, complete with associated linkages, is essential and relevant for this particular research.

Integrated Logistic Support (ILS)

The five-ring model, of course, is not the military's only attempt to define complex matters in terms of a system. Initially introduced by the US Army, the concept of ILS has since been adopted by other western militaries, including the United Kingdom, Australia, and New Zealand. It is a systems engineering approach to optimise the availability of military capability whilst lowering through-life costs, noting these are many times the original cost of the acquisition (and in previous times invisible to support planners and financial analysts).

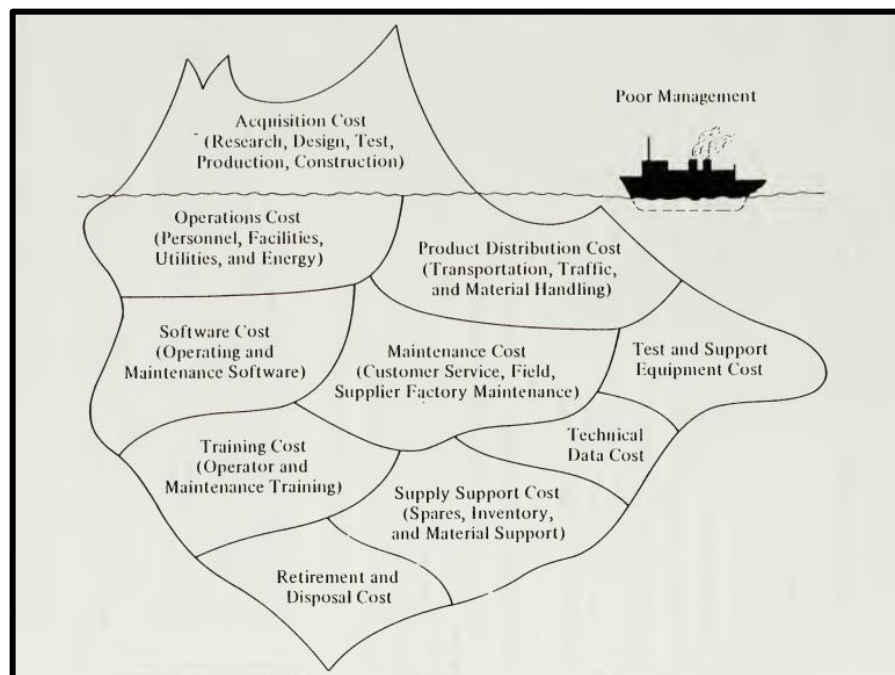


Figure 16 Integrated Logistic Support considerations
(Latif, 1987, p. 11)

The ILS process influences the design and develops support systems to complement the design and intended mission profile. When originally conceived, ILS system components comprised

² The term materiel refers to non-people related capability (including equipment, apparatus, and supplies). It is used more frequently in a military context but equally applicable in a commercial environment.

maintenance planning; supply support; personnel; training plus training devices; technical data; facilities; packaging, handling, storage, and transport; support and test equipment; plus, computing support (Royal Australian Navy, n.d.). These nine complementary elements have since expanded to include design interface.

The joint nation (Australia and New Zealand) ANZAC Ship Project (1993-2006) worth A\$5.6b in 1999 dollars saw ten vessels constructed across three primary sites in two countries, with major components integrated from further afield: Sweden (command and control system), Germany (hull design), and the USA (weapons and sensors). A case study report acknowledged this project's complexity and success (increased GDP, consumption, local jobs, generating associated defence exports, lower through-life costs) (Ironfield, 2000). As can be seen, a systems approach is an effective way of defining, understanding, and getting the best out of complex and interrelated matters.

Baldrige as an organisational/business system

Business, too, has at times attempted to systematise complex organisational factors and their inter-relationships. In the 1980s, to counter the superiority of Japanese industrial chains and their products, the United States developed a business model named after the then Secretary for Commerce under President Ronald Reagan, Malcolm Baldrige. The system, which has evolved considerably over the past decades, articulated the outcomes and relationships associated with seven key factors to successfully conduct business, being: leadership; strategic planning; customers; workforce; business operations; measurement, analysis, and knowledge management; and lastly and most importantly, results ("Baldrige Performance Excellence Program," 2021).

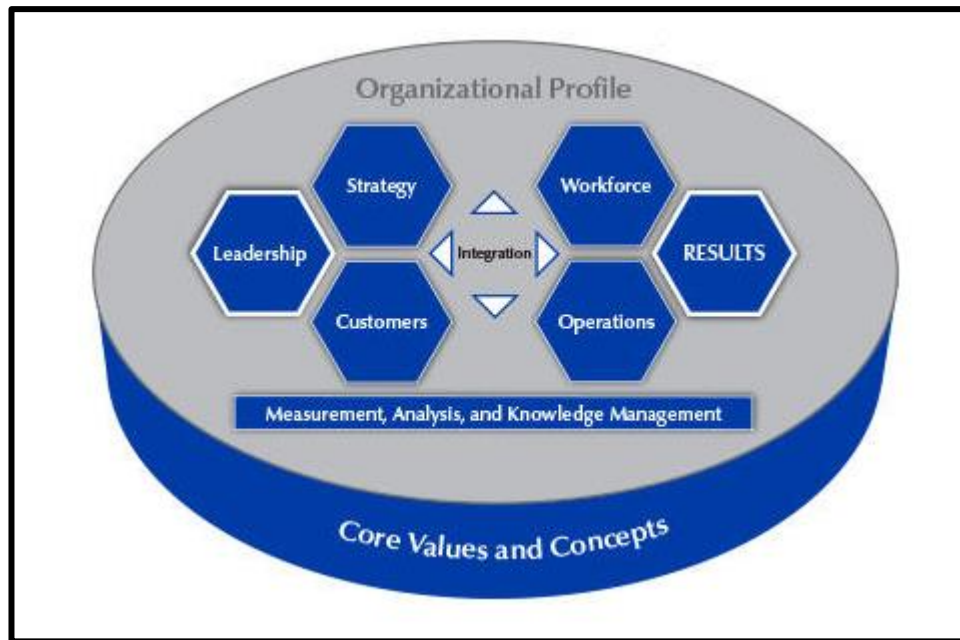


Figure 17 Baldrige Framework overview
("Baldrige Performance Excellence Program," 2021)

Of note, the system is non-prescriptive, i.e., a world-class organisation successfully performs these critical functions. Baldrige then asks participating organisations to articulate how they conduct the intended functions. The programme is quite comprehensive, comprising a framework, tools, assessment system, and recognition programme.

Leadership system entities

Notwithstanding the doubt in the minds of some interviewees as to the existence of a leadership system when operating in extreme contexts, there was general agreement by all interviewees, including interviewees 2 and 7 (quoted on page 61), that there were many entities (human, group, articles, and concepts) involved in leading during extreme contexts.

These are summarised as follows:

Operational leaders

These people were described through various terms representing respective organisations and agencies operating at different echelons. The term used in the emergency management sector was controller, and these people operated at a national, group (regional), local (city or district),

or incident level (Interviewee 1 - Controller, personal communication, September 30, 2019). This situation varied under overseas jurisdictions, with Australia using an equivalent: incident, zone, state, and national (Interviewee 5 - Controller, personal communication, November 18, 2019). Off to the side of the controller, separate from the response, is the Recovery Manager, responsible for the longer-term reconstitution/reinstatement of the damaged area/community (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

The equivalent term for the controller is commander for those uniformed agencies, the Defence Force, Fire and Emergency, and Police. And these, too, operated within different echelons, working in a hierarchical structure commensurate with rank systems. For Police, during the 2019 Christchurch counter-terrorism operation, Incident Management Teams (IMTs) reported to a District Commander in turn, reporting to a National Commander (Interviewee 24 - Commander, personal communication, September 21, 2020). Fire and Emergency, similarly, have a graduated system of operational leadership from the incident (sector) back to the national level (Interviewee 3 - Commander, personal communication, October 31, 2019). The Defence Force, which has the most formal command hierarchy and conventions, saw leadership embedded at every level from the scene of operation back to the operational headquarters (led by the Commander Joint Forces) and ultimately through to the strategic headquarters (led by the Chief of Defence Force) (Interviewee 16 - Commander, personal communication, August 20, 2019). A common theme expressed was that standing structures permitted a degree of tailoring to meet the unique challenges of various operations, i.e., counterterrorism operations structures differ from, say, a murder enquiry. During Covid 19, parts of some organisations were embedded in others, thus complicating formal reporting lines, e.g., the military commander leading managed isolation and quarantine centres reported through the Ministry of Business Innovation and Employment.

In each of these cases, roles and authority are set within relevant legislation. For emergency management in New Zealand, this is the Civil Defence Emergency Management Act 2002 and subsequent amendments ("Civil Defence Emergency Management Act, No 33," 2002). Police, Defence, Fire and Emergency, and Health have similar enacting legislation.

Further discussion on the way this authority is exercised may be found in Chapter five.

Staff

The operational leaders interviewed were quick to highlight the existence and importance of their staff. In most cases, these were people from inside the organisation who were well trained and worked-up (term used to denote a qualifying standard of competence and readiness). In some organisations, many of these people were volunteers (e.g., Fire and Emergency). In other organisations, they were laypeople (emergency management operations centre staff primarily comprise, among others, council staff who have a regular full-time role in council but are trained and redeployed to assist response operations in an emergency) (Interviewee 1 - Controller, personal communication, September 30, 2019).

Staff system

Leaders and staff interviewed invariably referred to the importance of structuring their organisation to optimise the response leader's ability to meet the many and varied challenges of the extreme context. In most cases and organisations, this was using a system called CIMS – Coordinated Incident Management System. CIMS is designed to standardise structures, roles, and terminology to increase the leader's ability to remain across large and complex response operations and allow a degree of interoperability for those extreme contexts that demand a multi-agency response (Department of the Prime Minister and Cabinet, 2019). CIMS comprises a suite of inter-related functions that when combined facilitates holistic, integrated, and comprehensive management of response operations. This sees a controller supported by a team individually responsible for safety, intelligence, planning, operations, logistics, public

information management, and welfare functions, and collectively for the successful prosecution of mission outcomes. The system comprises the following elements, with each designated a particular colour to identify the role performed; important given frequent staff churn through rostered rotation and many of the participants being lay-people conducting a secondary function.

Function	Colour	Responsibilities
Control	White	Controls and coordinates the response.
	Red	Controller's Support
Safety	Green	Advises on measures to minimise risks to response personnel.
Intelligence	Dark blue	Collects and analyses information and produces intelligence related to context, impacts, consequences and forecasts.
Planning	Pink	Plans for response activities and resource needs.
Operations	Orange	Tasks, coordinates and tracks execution of the Action Plan.
Logistics	Yellow	Provides personnel, equipment, supplies, facilities and services to support response activities.
Public Information Management	Purple	Develops and delivers messages to the public and liaises with the impacted community. Develops messaging for Governance when Strategic Communications is not activated.
Welfare	Light blue	Ensures planned, coordinated and effective delivery of welfare services to affected individuals, families/whānau and communities, including animals.
Recovery	Grey	Starts the recovery management process during the initial response phase and ensures the recovery process is integrated with the response.

Table 13 CIMS Functions
(Department of the Prime Minister and Cabinet, 2019, p. 36).

CIMS is a derivative of the Incident Command System, initially developed by Arizona Firefighters in 1968, for use in a civil context. ICS has since spawned a series of tailored response systems; the National Incident Management System (NIMS) used in the United States and AIIMS, the Australian Inter-service Incident System used by Australian agencies.

Notwithstanding the universality of the system, CIMS is not used exclusively within New Zealand. Police have a separate phase-oriented system for, say, a murder inquiry and the Defence Force uses the modified continent system for running a military operation (Joint Doctrine Centre, 2016).

0	Command
1	Personnel
2	Intelligence and security
3	Operations
4	Logistics
5	Plans (not current operations plans) and Plans
6	Communication and Information Systems
7	Doctrine, training and exercises
8	Structure, development, and evaluation
9	Finance

Table 14 Modified Continental Staff System as used by the NZDF

Governance

For most entities involved in response arrangements, there is a system of governance. This term is discussed further in Chapter five. However, the response process is generally overseen by a constituted body (government, company board, Runanga, council, or legislated body - e.g., the CDEM Joint Committee and Coordinating Executive Group). This body focuses on determining the organisation's purpose, holding officials accountable, and maintaining compliance with articles and direction (Arcus, 2012). In the case of government, effective governance is aided by standing management/coordinating bodies such as ODESC (The Officials Committee for Domestic and External Security Coordination) and more targeted ad hoc bodies (e.g., the Wellington resilience group under the chair of the DPMC, established post-Kaikōura) (Interviewee 1 - Controller, personal communication, September 30, 2019).

Partner agencies

For many extreme contexts, the coordinated support of partner agencies is necessary to manage a response effectively. Depending on the nature of the extreme context and the

appropriate lead agency, partners might include emergency management, Police, Fire and Emergency, Government Departments/Ministries, the Defence Force, Health organisations, lifeline organisations (those organisations providing essential services to people – e.g., energy, water, communications, transport), business, Crown Research Institutions, academic institutions, professional bodies (e.g., engineers), NGOs, community advocacy groups (e.g., the Deaf Society), and Māori (Interviewee 9 - Controller, personal communication, March 8, 2020).

Council

While councils could be included as partner agencies, their importance as an organisation operating at the public interface warrants specific mention. Councils provide the majority of staff operating in Civil Defence Emergency Operations Centres and Emergency Coordination Centres. And, of course, within the council, there are several key roles, including the Chief Executive and Recovery Manager. As previously stated, this latter role is responsible for leading activities post response (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

Media

This category covers the spectrum of agencies/individuals involved in mass communication and includes traditional media organisations (including television, newspaper, and radio) and those active on social media (via the internet or an App), either as part of an established organisation or as independent operators (Interviewee 1 - Controller, personal communication, September 30, 2019). More on this critical category later in the thesis.

Members of the public

Not everyone thought that members of the public were part of a system.

When asked the question, do you see the public as a factor in the leadership system, one answer was: “No, but they are a stakeholder in the outcome.” (Interviewee 2 - Controller, personal communication, October 10, 2019).

For others, the very nature of the term disaster was indicative of the involvement of, and impact on, people, the broadest and most diverse entity in the system. Some people in this category were leaders in their own right, elected or unappointed (and in some cases, self-appointed), while others were victims of the misfortune; certainly, everyone was impacted in some way. Some were observers, others were supporters or critics, while some were members of a community of interest. Each person, however, had an opinion on the event, the cause, desired response, and the efficacy of leadership involved. In some cases, this had been influenced by media interaction (Interviewees 12, 18, 19, 25, 29 - Members of the public, personal communication, various dates, 2020).

Intangibles

This category includes culture and heritage, values, language, terminology, and Tikanga; those things binding and underpinning the actions of a particular group of people. Other more specific concepts were also highlighted. These included empowerment, empathy, understanding, and acknowledgement (Interviewee 1 - Controller, personal communication, September 30, 2019).

Articles

Some interviewees pointed to the significance of documents and other conceptual items- e.g., legislation, strategy, plans, Kawa, and rules of engagement (Interviewee 1 - Controller, personal communication, September 30, 2019).

Context

The very nature of leadership in extreme contexts is indicative of context as a significant factor. Hannah et al. (2009) describe this as the location in time, magnitude and probability of consequences, physical or psycho-social proximity, and threat form. While interviewees were light on the contextual elements, a more detailed examination of those relevant issues, conducted in Chapter six (analysis of primary case studies), expanded this list. The result sees

additional factors such as history (memory, lessons learned, and perceptions) featuring prominently.

Purpose

What the majority of those interviewed overlooked, or more likely took for granted, was that the organisation, as exemplified by the leadership systems described, existed for a purpose. Each had a mission or set of objectives as set by the controller (Interviewee 1 - Controller, personal communication, September 30, 2019), albeit this in some cases was distributed through a phased approach, with teams creating an outcome or effect during the extreme context itself, while another team focused on the effect to be created out the other side (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019). Further discussion on this factor is in Chapters six and seven.

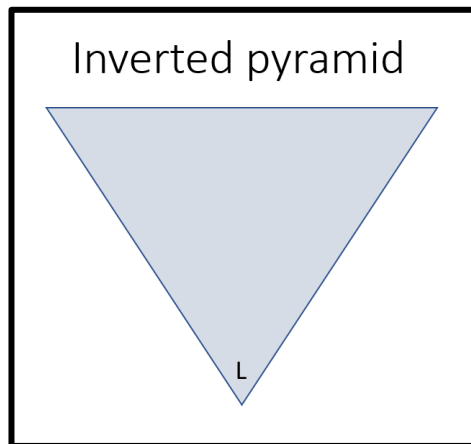
Chronological phasing

There are actions that occur before, during, and after extreme contexts. Emergency management is based on the 4 Rs of risk reduction, readiness, response, and recovery, often depicted in a linear fashion, but in reality, this occurs in a circular motion with individual phases influencing the phases ahead, complete with a need to constantly refresh earlier actions/decisions. This phased approach is most prominent in police operations (Interviewee 24 - Commander, personal communication, September 21, 2020) and the recovery function, post response (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

System structure

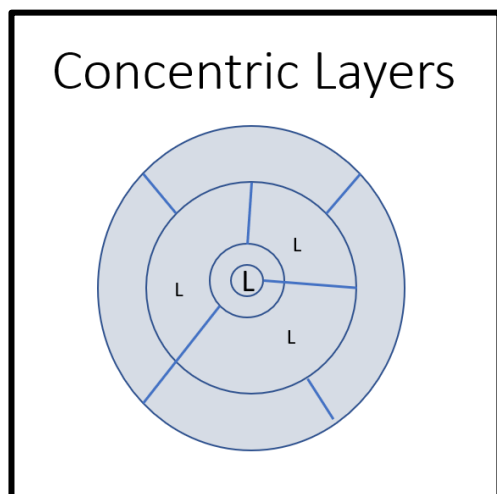
As part of the interview process, interviewees were given a sheet of blank paper and invited to draw a stick diagram of those entities/concepts present in their extreme context. Of interest was how they arranged those entities identified. The resulting designs varied depending on system complexity and the leadership frame of reference of the person concerned. The

diagrams fell into six basic categories, with explanations reflecting the intent expressed during the interview, as follows:



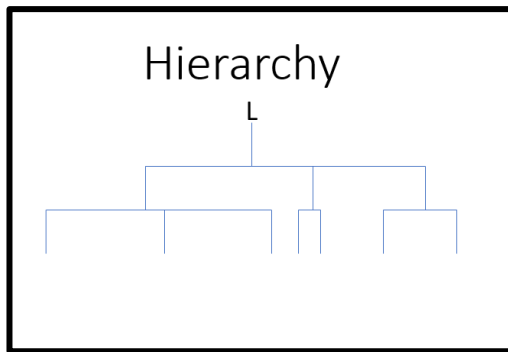
The Inverted Pyramid model recognises that leadership works best when it is shared, and the role exists to support others.

3

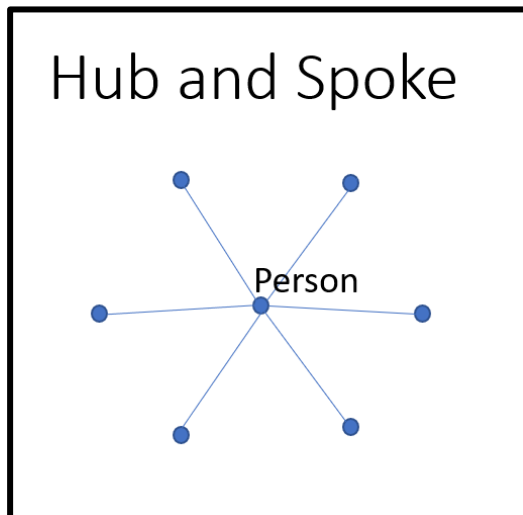


Leadership occurs at many levels, with the primary leader influencing the actions of other sector leaders. The role is likened to that of an orchestra conductor.

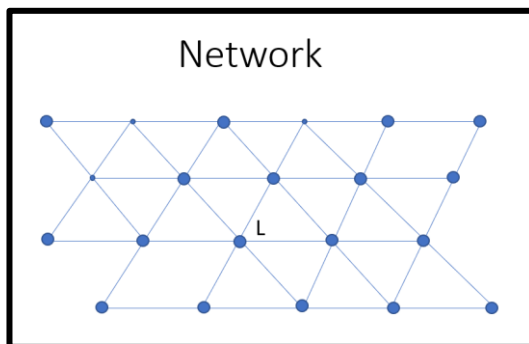
³ Note: L refers to the leader and D on the bottom diagram on the following page refers to the day of the event. I.e., D+14 is 14 days after the event.



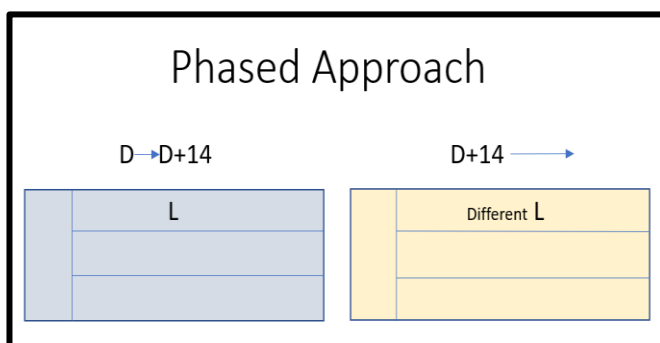
Someone is in overall charge with others working in support, operating at different levels.



This is a more generic model recognising that people (leaders and others) interact with a multitude of others.



This model is similar to the model above but recognises the complexity of the entities involved and their relationships and interactions.



This model recognises the different roles and styles required in response versus with recovery.

Figure 18 Leadership models identified in interviews.

Having considered the various models along with the intent and explanations provided in the interview transcripts, it would appear that aspects of all the models need to be factored into any systems diagram of the cumulative entities identified. However, this compounding situation would make the resulting system complex, requiring a substantial degree of integration and coordination. It would also highlight the importance of those factors outside the actions of a single person (leader). The resulting cumulative diagram may be found on page 109.

Relationships between leadership system components

In addition to the system components themselves, interviewees, when probed, identified several challenges, opportunities, tensions, and emotions experienced as part of the relationships existing between system components. The system is energised and sometimes constrained by those interactions occurring between the various entities. The existence of these, in turn, provided input into some of the leadership capabilities identified in Chapter eight. Examples highlighted through the interview process include:

Inter-leader activity

One of the critical leadership system relationships is between the operational leaders, working in vertical and horizontal leadership planes. This relationship may see leadership working at an incident, local, regional (group), national, and international levels; either in a formal hierarchy (national Police structure) or looser affiliation (health authorities with the World Health Organisation operating at the international level). On a horizontal plane, there is considerable diversity of organisational effort required to run an effective response. This situation requires people working in collaboration and consistency in terms of systems, terminology, and approaches, where relevant.

Higher-level Controllers/Commanders

Critical to gaining a successful outcome is understanding the bigger picture and intended mission outcome(s). Within emergency management, a controller cannot operate against the express direction of the higher-level controller ("Civil Defence Emergency Management Act, No 33," 2002 Sections 27 and 28). This legislation highlights the importance of a shared understanding (of the situation and capabilities) and requires effective communication. A prudent higher-level controller should understand the situation, sufficient to provide oversight and support for those controllers operating closer to the incident(s). It is essential that at all levels, the controller closest to the action/incident is empowered and given the freedom to make the right calls within any operating parameters provided.

Peer level Controllers from the same organisation/agency

It helps if there is consistency in the approach across (zoned) boundaries to avoid mixed messaging for the public. Where possible, cross-boundary support should be provided when requested, provided home capability is not unreasonably denuded. Response operations should never occur in a competitive environment (Interviewee 1 - Controller, personal communication, September 30, 2019).

Peer level Controllers across partner agencies

Several interviews highlighted tension points between partner organisations/agencies. These tensions can occur in numerous ways. By their very nature, most of the organisations concerned are different. They have separate and distinct roles in society, operate courtesy of separate legislation, wear different attire, sometimes use different terminology, and have their own organisational culture and rules of engagement. A common staff operating system (CIMS) overcomes some of these differences, but others remain.

Rules of engagement are one of the frequent differences, a good example being the re-entry of the Pike River mine in 2019 when mine staff conducted a re-entry while Police had a

different threshold for the risk involved (Carroll, 2019). This example is not intended as a criticism but merely to highlight differences in organisational approach.

To overcome inconsistency and enable a degree of certainty, partner organisations have agreed to support each other during an emergency. The CDEM Plan ("National Civil Defence Emergency Management Plan," 2015), for instance, outlines the level of support beyond specialist tasks that emergency management can expect from partner agencies. This agreement is summarised as follows:

FENZ	NZDF	Police	Health
Located in EOC	Provides Liaison	Provides liaison when requested	
Responsible to Controller	Advises controller of potential support available	Participates in development of plans	
Advises Controller	Can assign units	Exchanges situation reports	
Supports Controller			
Maintains Communication			

Table 15 Multi-agency support for CDEM operations

(Information assembled from "National Civil Defence Emergency Management Plan," 2015)

The challenges posed by the incomplete nature of the table above are many, and serve to limit the effectiveness of the control function during multi-agency operations. The CIMS manual (Department of the Prime Minister and Cabinet, 2019) defines the term, control, as:

Control is the authority to set objectives and direct tasks across teams, units and organisations within their capability and capacity. This may include control over another team, unit or organisation's resources but does not include interference with that team, unit, or organisation's command authority or how its tasks are conducted.

Control authority is established through legislation, by formal delegation or by mutual agreement (p. 14).

If control is a prerequisite for effective operations, then Table 15 provides a patchy support matrix for partner organisations during a CDEM led response operation. That, of course, assumes reality matches intent. An examination of interview content reveals a mixed response. While support partners operated harmoniously on most occasions, a lack of unified control sometimes resulted in a fractious and siloed approach, with partners unilaterally advising their decision to disengage from a response, acting entirely independently, and on one occasion, simply disappearing without explanation or notice.

“XXX and YYY (two partner organisations, names withheld) were having separate op groups every morning, which I didn't even know about until after the event. . . . They were having a little hui and working out what they were doing - they never reported it to me.” (Interviewee 9 - Controller, personal communication, March 8, 2020).

“There were occasions during the crisis where you thought you had buy-in and support, and it turned out you didn't from key players. So, I was really hacked off . . . when the XXX (*organisation name withheld*) started playing a game.” (Interviewee 6 – Council Chief Executive, personal communication, December 11, 2019).

“. . . whole string of other players, some of which you had control of and some like (*name withheld*), who refused to play.” (Interviewee 9 - Controller, personal communication, March 8, 2020).

“XXX (*organisation names withheld*) didn't seem to have faith that YYY knew what they were doing and YYY thought XXX were stepping on their toes.” (Interviewee 17 - EOC Liaison Staff Member, personal communication, July 31, 2020, referring to a lack of trust and understanding between response partners).

I know about operational control, but it is not a term that is used outside the military, so if I said to the head of YYY (*name withheld*), let alone the local commander, and said, your guys are under my operation control - Oh no we are not, they would have said. But surely that is what the legislation intended when you have a declaration, . . . it talks about coordinate and control the use of resources and assets, which all those are part of it. But there should have been an understanding of how they would function under this setting (Interviewee 9 - Controller, personal communication, March 8, 2020).

“What they do is not clear to me in terms of authorities – by the way, that doesn't mean they don't have any, I just don't have any that is visible.” (Interviewee 16 - Commander, personal communication, August 20, 2020, when asked about the role of a particular national level HQ during Covid)

“But the lines soon became blurred with both sides doing, for instance, planning and taskings. This, and the different cultures at the two locations led to a degree of tension.” (Interviewee 13 - Controller, personal communication, July 24, 2020, when asked about the national level HQ referred to above).

“ZZZ passed all their information direct to their national HQ without bothering to share with the Group ECC and XXX (*organisation names withheld*) simply disappeared without notice from the city EOC (Interviewee 1 - Controller, personal communication, September 30, 2019).

.

“There were tensions between what the city council thought they were in charge of and what the Civil Defence Group were in charge of” (Interviewee 9 - Controller, personal communication, March 8, 2020).

Note: slight modifications have been made to mask the participants, given it is the principle that is important, not the actual identity of those involved.

While it is too early in the thesis to draw firm conclusions, the interviews point to the importance of operational and corporate heads of organisations with a role in emergency response building and maintaining effective relations and that this relationship extends throughout each organisation. Providing leadership and direction within a single organisation is one thing; where leadership is required across organisational boundaries, this requires an enhanced set of leadership skills - meta-leadership (Marcus et al., 2014). In these circumstances, the lead controller/commander must establish the knowledge, professionalism, and credibility to direct multi-agency operations. This requirement can be challenging where the people concerned do not work directly for you, however, you are responsible for the combined outcome/effort. As previously stated, this situation can be more problematic where organisations have separate roles, cultures, plans, and rules of engagement. A prime example of this may be found in various reports related to the operation of MIQ facilities, as highlighted in the following newspaper article. While the article paints a jaundiced, one-sided picture of the issues raised, there can be no denying the issues raised:

A culture clash between our military and civilian agencies has emerged in the fight against Covid-19.

The degree of difference is such as to suggest the military really is from Mars - and sees everyone else as from a completely different planet.

Documents show the meeting of the two worlds confounded our military which has been the staffing backbone of Managed Isolation and Quarantine facilities. . . .

One of the three Operation Protect commands across New Zealand had "adopted land-based warfare doctrine that is not well suited to a domestic operation". It was recommended national "'SOPs' - standard operating procedures" be reviewed.

The military's love of acronyms was just one part of a huge culture difference. NZ Army veteran Aaron Wood, who left NZDF as a Staff Sergeant, said language was a significant and clear marker of the difference. . . .

The review documents show early reports from military personnel that "AoG civilians found it difficult to integrate into the 'military way' and lexicon". The reviewers stated that "in reality, NZDF personnel should be integrating into the AoG response using the CIMS (Co-ordinated Incident Management System) model. . . .

Other culture clash issues to emerge included the difference between the military approach of ordering subordinate personnel to do tasks and the civilian approach.

Reviewers found: "Interaction with civilians is conducted in a very different fashion as they are not under the authority of the military to undertake certain actions (Fisher, 2021)

On other occasions where difficulties were overcome through the maintenance of productive relationships, this too fell over.

There were obviously some key players, particularly XXX, who were actually a bit of a problem I thought, in relation - I mean generally they are not, but they were, YYY was

away, and you had a pretty inexperienced officer from one of the smaller divisions actually heading the region temporarily (Interviewee 6 – Council Chief Executive, personal communication, December 11, 2019).

Lower-level Controllers

It is essential that these controllers feel sufficiently empowered to lead as required by the CDEM Act and understand higher strategic intent and objectives. Conversely, higher-level controllers must understand the lower-level capabilities and capacity and maintain oversight throughout the operation. During the case studies examined as part of this research, there were two occasions where higher-level controllers chose to intervene summarily, resulting in staff (in one case, the local alternate controller) being redeployed accordingly. On both these occasions, this caused resentment (Interviewee 1 - Controller, personal communication, September 30, 2019).

Response Manager

While the controller provides the leadership component in the Emergency Operations Centre, the Response Manager operates more at a managerial level, making the EOC and CIMS run as effectively and efficiently as possible. It is vital that the Response Manager works in a coordinated manner with the controller and possesses the confidence to raise any red flag matters (Interviewee 1 - Controller, personal communication, September 30, 2019).

Recovery Manager

The Recovery Manager operates at the same level as the Controller. It is vital that the Recovery Manager is thoroughly appraised of the situation and immediate intent, and together, they develop a shared direction, so short-term response decisions do not unnecessarily adversely affect longer-term strategy. The Recovery Manager works more closely with established council BAU functions than the controller, without the benefit of an established management system like CIMS (which is neither designed nor suitable for

coordinating the range of functions engaged in this process). It is essential that the transition from response to recovery occurs smoothly, at the most appropriate time, and with no surprises (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

Mayor (Political leader)

The mayor is the person voted into office by the public to lead their community. The mayor/controller relationship has much in common with yin and yang principles, being separate and distinct roles yet requiring a sense of cooperation (complementary and interdependent) to succeed. And, while the mayor does not provide operational direction, they will have a particularly valuable perspective that needs to be considered. To work successfully, the two need to know and trust each other, develop a shared understanding of each other's roles, and provide appropriate mutual support. The mayor can provide a valuable front face for the media (with more technical input from the controller). This relationship naturally has the potential to go wrong, and there were numerous examples provided where the controller went against the mayor's intent (and vice versa).

Mayor XXX still reckoned that "he was running the push, despite the fact, there had been a declaration" (Interviewee 9 – Controller, personal communication, March 8, 2020).

Mayors have huge ownership of the community because that is how you get to be a mayor. In the cases I have known of since, they take great ownership of the problem that their community faces, which is applaudable. They are reluctant to let go. In the sense, they want to move the chess pieces, do the operational bit, and direct traffic if you like. Because that is how they see their role in a leadership position, so the only way around that is to generate, one, an understanding of the differences between the two responsibilities of controller and mayor, and two, to generate trust, so that one knows what the other is doing, and they both trust each other that we are doing it right. In my case, Mayor XXX, mainly because of a weakness on my part had far better

connections into the community which is great and so he should. He knew much more about what was happening in the community, but because of this structural dysfunctionality, whatever he knew wasn't making it into the situational awareness (Interviewee 9 – Controller, personal communication, March 8, 2020).

Council

While the mayor/controller relationship was usually tight, the relationship with councillors is sometimes more problematic. The role of councillors during extreme contexts is not well defined, and behaviours sometimes reflect the degree of harmony within the council during BAU. It is essential to bring councillors quickly to speed on the key issues – situation, direction, and strategic challenges. All going well, they can provide valuable support. It is important to avoid people in this category going maverick, with publicly dissenting voices – all very confusing and unhelpful. A challenging event (e.g., an earthquake) is a time to put politics aside and pull together. Councillors who want to be visibly involved are best pointed in the direction of the community and kept far away from the Emergency Operations Centre.

We had all of these new councillors in there and being told that the mayor had thought that it was a good learning opportunity for them - sort of orientation for them. But again, it showed to me, that lack of understanding that we were in an operational, live response centre, and they were in the way (Interviewee 22 – Controller, personal communication, September 8, 2020).

Others take their governance role, of holding to account, very seriously, with the emergency management controller a convenient target.

At the next council meeting following the incident concerned, one councillor proceeded to grill me on the performance of public transport. During the incident, the roads and rail links were cut because of land slips and flooding, and the CBD and surrounds were in traffic gridlock. Apparently, I was expected to conjure up an

additional three hundred buses and position them appropriately to ensure commuters got home on time (Interviewee 1 – Controller, personal communication, September 30, 2019).

Some use extreme contexts as a grandstand platform.

One councillor questioned me on the contents of a report I had not seen or knew existed. She declined to provide me with a copy however passed one to the journalist present at the meeting, who immediately pressed me for comment. Unfortunately, the report was full of errors, inaccuracies, and innuendo, meaning it had to be extensively rewritten (Interviewee 1 – Controller, personal communication, September 30, 2019).

Central and Local Government Interface

Unlike many response partners (e.g., Police and FENZ), which operate in a unified structure, emergency management operates at three governmental levels – central, regional, and local. Some of these entities do not work constructively together during BAU, potentially inhibiting effective response operations. The situation in Christchurch, pre- and post-earthquakes (2010 and 2011) was a classic example (McLean, Oughton, Ellis, Waklin, & Rubin, 2012). In recent years, there has been a degree of amalgamation. This has seen CDEM Groups integrating staff, structures, and systems to produce a more consistent, unified approach to CDEM within their region (e.g., the Wellington CDEM amalgamation to create WREMO in 2012). This situation, however, has not been uniformly applied across all 16 CDEM Groups. Similarly, at a BAU level, the current situation sees CDEM policy being crafted by central government, whereas it is local government that owns and controls the majority of CDEM professional resources and manages the interface with members of the public. The equivalent situation in Police would be central government owning national headquarter's functions and local government owning and controlling regional and local police forces.

Operations centre staff – professional

If the Controller or Commander is the face of operational leadership, then the headquarters or Emergency Operations Centre staff is the engine room. This group of people are typically recruited as having the general capabilities for these roles and then trained and prepared for such events. In the military, this would be the equivalent of an operational headquarters staff; in sport, the leadership team; and business, the crisis management team. For emergency management, this group of people comprise the emergency management professionals assigned to a particular operations centre. These people are expected to be resilient, competent, confident, and have the energy and aptitude for the task; able to operate effectively in an ever-changing, often unknown, and complex environment. However, for them to be effective and available, this also means that the immediate families of EOC staff must similarly be resilient. During a major storm, a response manager reported for duty despite a tree coming through one of his windows at home. A controller during the same storm left his wife to deal with water pouring through a ceiling, the garage door having jumped its tracks and a power outage. He returned home 24 hours later to find these matters sorted!

At times like this, it is easy to take the efforts of staff for granted. After all, it is their job to respond to emergencies. A little praise, however, can be quite energising for both the provider and recipient.

I can't thank you enough for what you have done/achieved over the past few days. You have been magnificent, and I am immensely proud of your sense of professionalism, willingness to go the extra yards and your sense of humour/perspective. Keep up the great work. - Last paragraph of a situation report sent by a controller to staff, two days after a significant event (Interviewee 1 – Controller, personal communication, September 30, 2019).

Operations centre staff – laypeople

In the case of emergency management, most staff in an operations centre are regular council employees. They are recruited explicitly for a BAU role and then expected to adapt and perform in the demanding response environment. Some are volunteers, while others are appointed. Some thrive in the environment; others regard it as an unwanted distraction from what they were hired to do. The organisational overhead associated with developing these people for their operational responsibilities and the opportunity cost of them being absent from their primary role must be constantly managed, with encouragement from the very top of the organisation (Interviewee 1 – Controller, personal communication, September 30, 2019). The CDEM Act ("Civil Defence Emergency Management Act, No 33," 2002, section 64) states that a local authority "*must* plan and provide for civil defence emergency management within its district and ensure that it can function to the fullest possible extent" (*emphasis added*), even though this may be at a diminished level, following an emergency. Despite this mandatory requirement, obtaining sufficient trained resilient staff, providing them with support and direction to contribute effectively, and freeing them to focus exclusively on emergency operations, remains a constant challenge. Most people rise to the challenge and perform magnificently, particularly when allocated roles that harness their BAU skills, knowledge, and relationships. Their EOC role might represent a bold step up into the unknown (along with the corresponding personal challenges that come with this), but they are up to the challenge. Some, however, recognise their unsuitability before an event, while others withdraw or require reassigning during an event. Of note, because of their Covid experience, some do not want to repeat their EOC service. The operational role was too demanding, opened their eyes to things they would prefer not to see (personal misfortune), or their BAU role suffered, making the return to regular work routines challenging with the backlog overwhelming (Interviewee 10 – Controller, personal communication, September 30, 2020).

Maintaining sufficient motivated and trained staff to run an effective EOC is a significant challenge. When asked why he was not doing more to provide the numbers required, our council Chief Executive replied that he felt people had to want to participate. On one occasion, this meant managing the impact of a major earthquake with an EOC comprising fewer than ten people, requiring those staff to do several roles and work extraordinary hours. Talk about making a difficult job even harder. “In my experience, those people who set you up to fail rarely accept their share of the responsibility when the inevitable occurs” (Interviewee 1 – Controller, personal communication, September 30, 2019).

While the requirement for reinforcement and recognition for staff is not limited to lay staff, it is essential for people who are less confident in their role and expected level of performance. When one EOC staff member was asked for the most profound leadership lesson acquired in their time working in and around EOCs, the response was “acknowledging your staff” (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

The prospect of dysfunctional behaviours on occasions becomes amplified when activities are conducted under pressure. Emergency management appointments do not always follow BAU conventions. In one city, this saw a tier-four manager elevated to the role of (alternate) controller. While the person concerned performed with great credit in the role and with the complete confidence of the Group Controller, some EOC staff whose BAU role was tier-three tended to operate around her and required pulling into line (Interviewee 1 - Controller, personal communication, September 30, 2019).

Relationships can also become troublesome when controllers (particularly council employees) and the council Chief Executive disagree.

One final area of potential dissatisfaction may occur where staff do not entirely understand their role, the roles of key people in the response (e.g., council Chief Executive and Controller),

and the broader ramifications as viewed by higher-level bodies and the public. Following the Kaikōura earthquake, feedback from one council staff member was that the activation was “too long activation, without the floods on Monday night we would have deactivated on the Tuesday, Wednesday, latest (*two days after the earthquake*). Was there an element of chest/puffing arrogance involved in staying activated longer?” (cited in a draft after-action report that never made it past draft status).

The controller responsible and the target of those remarks saw the situation differently:

Throughout the 12 days of activation in question, the building situation remained a significant risk to public safety and needed to be managed intensively, particularly with the prospect of significant aftershocks. At the time, it was not until after most building stock inspections had been reconciled against city plans that the residual risk could be transferred to the city recovery team (Interviewee 1 - Controller, personal communication, September 30, 2019)

Specialist Advisors

There are several distinct types of people in this category. Primarily they are people with specialist knowledge, skills, or experience (e.g., academics, engineers, scientists, cultural advisors, and ministry officials). They are there to provide advice, not make decisions.

Sometimes this distinction is unwittingly blurred. Some specialist advisors are also skilled communicators and can convert complex concepts into simple metaphors or analogies suitable for public consumption. Dr Ken Gledhill (geophysics) and Dr Siouxsie Wiles (microbiology) are two of the more gifted people operating in this space - during the Seddon earthquakes and Covid 19, respectively (Interviewee 1 - Controller, personal communication, September 30, 2019)

Academics

One subset of this group is academics. These people have an in-depth understanding of a specialist area. They can be valuable contributors to decision-making or use their (knowledge-based) credibility to steer/reinforce public messaging. However, some stray into operational matters with a principled approach without fully understanding the context, associated nuances, or broader operational considerations. This situation can lead to confusion and a dilution of the (official) message. The roles should be complementary, and often the best outcomes occur where researchers and practitioners work collaboratively so that the knowledge component is promulgated and the information is oriented for the benefit of the end recipient – the public (Interviewee 1 - Controller, personal communication, September 30, 2019).

Media

Official.

But here is the problem. The media want to know what is happening and what you are doing about it, but the public want to know what is happening and what you are doing about it, and so the media act as the conduit between, not always helpfully between the public's appetite for information and your ability to service that public appetite (Interviewee 9 – Controller, personal communication, March 8, 2020).

It is their role to be challenging, and for a controller, it means they need to bring their A-game. Controllers need to understand the importance of a useful and catchy soundbite and use all those means (including humour where appropriate) to ensure the message catches the minds of the public. “I am not sure you have to be a gifted speaker; however, you can achieve good outcomes if the media knows (and respects) you and your message and projection is authentic” (Interviewee 1 - Controller, personal communication, September 30, 2019).

While leadership is supported under CIMS by a public information team, this team is sometimes considered more of an impediment to the effective flow of information. “They never really answered our questions and fobbed journalists off elsewhere. Thus, I felt they were unhelpful” (Interviewee 11 - Senior Journalist, personal communication, August 12, 2020).

Independent Media operators

This group are a loose categorisation of people operating in a common space and ranges from small, structured organisations to individuals with a social media account. Some operate behind a cloak of anonymity, owe no allegiance to anyone but themselves, and will manipulate matters to grow their base. They are often reticent to engage with authorities over the accuracy of the message. This situation means you need to accept they exist and use whatever means available to get your messages through. If you are successful in this respect, some of your followers will help moderate these alternative views (Interviewee 1 - Controller, personal communication, September 30, 2019).

In extreme cases, this lack of accuracy has seen people evacuate their homes unnecessarily during a tsunami. Also, during the 2013 series of earthquakes in Wellington, a group of visitors to Wellington immediately went to the airport and flew home. When they attempted to claim the cost on insurance, it was declined. They then took the matter up with the controller before admitting they got their information from an independent operator (Facebook page, in which the situation was portrayed as being particularly dire, corroborated by random and often inaccurate postings by the public) (Interviewee 1 - Controller, personal communication, September 30, 2019).

Some, however, are aware of their (public) responsibility and are mindful of the impact of misdirected or ill-informed comments.

I suppose you would call some trolls and propaganda and people with a lack of - you have to have people question the system, but mental health has come shining through Covid, and so people who were reasonably sane found themselves with not much to do except focus and start drawing dots to nothing in particular. So, we have a lot of manic thoughts going on that plant seeds and manifest really swiftly, especially on the Porirua page, which has about 35,000 people on it; very quickly, it became a frenzy of manic behaviour. So, I just call them hōhā people that shit-stir (Interviewee 19 - Member of the public, identifying as Māori and blogger, personal communication, August 20, 2020).

Business

Business rates a mention in several guises. Primarily as a provider of goods and services, as a means of employment, and where used for their expertise. One of the more useful adjunct members of the EOC staff during the Christchurch earthquakes was a Kiwirail logistics manager. He was able to tap into his commercial networks and supply chain to expedite difficult to obtain items (Interviewee 1 - Controller, personal communication, September 30, 2019).

Business continuity also triggers indirect or secondary order consequences, including many factors leading to personal well-being (including satisfaction, fulfilment, and social connectivity). Challenges occur when business goals conflict with other well-being imperatives, such as restricting/discouraging access to a city's central business district during an earthquake (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020) and curtailing business operations during Covid 19. In this last instance, well-being goals were supported in some countries with targeted wage support mechanisms to soften the wage generating imperative, where this conflicted with Covid containment strategies (New

Zealand Government, 2020). In other countries, people were required to set their own priority goals, thus balancing destitution versus the overall health risks (Kugler & Sinha, 2020).

Lifelines

A subset of the business fraternity identified for special mention is lifelines organisations. These comprise those providers of essential services during extreme contexts; energy (fuel, power, gas), transport, water (drinking, waste, and sewage), telecommunications (internet and phones), and fast-moving consumer goods (grocery items, pharmacy). These organisations require a robust and practised business continuity plan (BCP) and understand they have an important civic role during extreme contexts ("New Zealand Lifelines Council," 2020). During Covid lock-down periods, their importance came to the fore, as did the fine line between those goods and services considered essential and those not (for example, supermarkets versus independent butcheries). In addition to self-management, lifelines organisations require priority support to ensure continuity of service from both response authorities and each other (e.g., continuity of water services requires transport access, power, and telecommunications) (Mowll, 2012).

Military

Defence Forces provide a valuable source of latent capability - large numbers of trained, equipped, organised, and disciplined people (Interviewee 14 - ex-Service Chief, personal communication, July 29, 2020) who have a marginal practical role in BAU society. They, therefore, have tremendous utility as surge capacity during extreme contexts. This situation can sometimes see them in quantity roles, sandbagging during flooding or staffing cordons in earthquake-damaged cities, or quality roles where they bring value-adding structure, skills, and organisation (e.g., Managing isolation and quarantine centres).

I come from Portsmouth in the UK, and so I have a lot of experience of working with and employing ex-servicemen. I can tell you I know what the military brings and the

training and experience it brings. If I ever wanted anyone in logistics, supply chain, or anything like that, I would automatically employ someone from the Royal Navy because they knew how to do it (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020).

Military staff can also provide a valuable addition to EOC staffing, bringing their expertise in operations, planning, and logistics, albeit this can sometimes come with cultural assimilation challenges (Fisher, 2021).

Leadership advisors

Given the importance of leadership during extreme contexts, one important adjunct member of the leadership system operating pre-extreme context is the leadership selection/development advisor. They are particularly valuable outside those organisations that recruit vertically from within for operational roles (i.e., Police, FENZ, and the military). With actual leadership ability unconfirmed until thoroughly tested, selection support helps identify suitable candidates and permits a targeted investment in their further development. This sector is dominated by psychologists, who use personality tools, job families, and predictive behaviour profiles to help eliminate the guesswork where a proven record of operational performance does not always exist.

There are a multitude of things - it is really understanding the role and the context in which the people are going to operate in - so it's a response role, what is their BAU role, and what does their response role look like? And so, establishing those core behaviours/competencies that are required for that role. Even at CE level, those, one CE versus another, what you look for is not going to be the same. There are some common elements, typically, but the expression of those is quite different. . . . for instance, if we are using personality tools, then we look to research to say that in these types of roles, what kind of profile predictive behaviour on the job. So, there are

bodies of research that look at that. So, you have got, and there are some job families that relate, so if you are a manager, then you can pull out a file that looks at a generic manager. . . . the more unique the role, the more specific the role, the more you really need to look at those particular specifics that - leverage what you know from research but map those to a particular role. So, research doesn't cover everything (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

Members of the public

This most extensive and diverse grouping of people frequently escapes examination as part of any leadership analysis. Only in recent years, with the arrival of leader-member exchanges, servant leadership, (to a degree) adaptive leadership, and followership, the role and needs of those being led have been examined in detail.

This research, particularly the Covid experience, has highlighted the importance of (leadership and people) working collaboratively to achieve the maximum collective benefit. Accordingly, these relationships require analysing and understanding, to appropriately manage the leader-follower interface. This requirement goes a step further than Hannah et al. (2009), which explains in some depth the context, along with the relationship between context and leadership, but merely sums up the balance of response actions within the term, adaptive leadership response. The authors, however, never intended this as the definitive statement on what happens next; merely, they were providing:

. . . some level of guidance for researchers to frame and test their theories with an appreciation of the multidimensional aspects of extreme contexts and extreme events. Based on our literature review, here we make only general observations about the nature of leadership in extreme contexts and offer more questions than answers, with the intent to stimulate thoughts for future research (p 912).

There followed a discussion on the research examining the most effective mode of leadership under extreme contexts; transactional versus transformational, prompt and decisive versus delayed and considered, with the result being inconclusive. Hence the reference to adaptive leadership; adaptive to the context and those being led. Presumably, this leadership/people interface requires a separate set of engagement tools and means, depending on whether you are leading a structured, trained, and homogeneous group like a military unit or a more heterogeneous group existing in the public. Some of the categories of people identified from the interviews include:

Supporters

It helps considerably if, within the public arena, there is a nucleus of people who share leadership's values, understanding, and intent, are willing and capable of following official direction, and influence their networks accordingly. These people need to be viewed as champions of the cause, valued, and kept engaged (Interviewee 1 - Controller, personal communication, September 30, 2019).

Critics

While not an official element of the response, this group of people nonetheless exist and must be accommodated in any communications plan. These are people with a voice, often affected but lacking a complete understanding of all the contextual factors or experience in dealing with similar operational matters. There are few absolutes in extreme situations where matters can be described as right or wrong. Extreme contexts often involve compromise and are more a factor of risk versus opportunity or one risk versus another risk (Interviewee 1 - Controller, personal communication, September 30, 2019).

These critics range from anonymous entities posting comments on a Facebook page to, at the other end of the spectrum, prominent voices (including academics and politicians) who promote their own brand as well as their considered opinion ("Covid-19 and Beyond:

Scholarship, analysis and comments on New Zealand developments," 2020). Indeed, some take a narrow, principled approach to operational matters without fully understanding the context or the full benefit of data-fusion occurring as part of a CIMS-type management process. This observation is not intended as a criticism of free speech, however, during an extreme context, multiple and diverse proposed courses of action in the eyes of a confused culturally diverse public are often unhelpful. Most critics rarely consider the unneeded and sometimes unwarranted distraction they provide for the person in charge, who is already fully occupied by first or second-order consequences arising from the extreme context source event(s). Accordingly, these people sometimes become part of the problem (Interviewee 1 - Controller, personal communication, September 30, 2019).

An excellent example of this was the Facebook comments of a Director of a PR Company (a self-described expert in communication and public relation strategies for the modern social era) when referring to the situation occurring at Whakaari White Island.

The tragedy at Whakaari/White Island last week exposed a growing institutional cowardice among emergency services, particularly police, that affects their usefulness to citizens. When the eruption occurred, and the emergency calls started on Monday afternoon, police and rescue services decided that they would not head to the island to help. It was left to my fellow citizens to respond with māia (courage). Those nearby, and back on the mainland, reacted instantly and humanely. They ran, flew, and sped by boat toward the danger. . . . When police finally got their act together, they used their authority to prevent further private rescues or body recovery. Let's assume that, as some people seem to be arguing, it is OK for state professionals, trained for, paid for, and possibly even keen to respond to emergencies, to refuse to attend one (Blackham, 2019).

The syndicated opinion piece also featured on Radio New Zealand and in a multitude of local newspapers. The author later doubled down on his comments eleven months later.

Confirmation this week that there is a place for courageous and contentious views, but most importantly, for courageous actions by institutions. One year ago, I criticised the refusal of emergency services to go to White Island to rescue those struck by the eruption. It was an uncompromising stand against what I called institutional cowardice; a widespread managerial culture that avoids risk, even when risk is expected and embraced by frontline staff. This week the organisations admitted they were wrong to wait, although they tried to absolve themselves of guilt by claiming it did not make any difference to the result. Apparently, the terrible two to three hours experienced by people on the island while organisations vacillated was of no consequence. If organisations don't fulfil their responsibilities, they lose their relevance and the mandate they claim. It appals me that even while refusing to exercise their responsibility, authorities tried to use their power to hamper and hassle the efforts of the private helicopter pilots who went in to help (Blackham, 2020).

It is one thing to make an impulsive decision to place your own life in danger to rescue another as the local helicopter operators did on that day. It is entirely another matter to command/direct someone to endanger their life when there is incomplete information on the situation/context, particularly when the precious little intelligence available suggests that the mission would be a body recovery mission (Interviewee 1 - Controller, personal communication, September 30, 2019).

Contrast the opinion of the PR consultant with the thoughts of the Mission Commander who directed the recovery action days later with the benefit of a plan, complete with risk mitigation measures, and conducted by an elite operational unit (Leaske, 2019).

They were kitted out in extreme gear - 15kg each of special closed-circuit breathing apparatus strapped to their backs and layers of specialist clothing designed to wick sweat, filter out gases, protect from fire, liquid (sic). Masks and hoods and boots and gloves they were covered from top to toe, their sweat building as they climbed into

their gear and being encased inside as they went so, they could hear it "sloshing around" their bodies. . . . We had done everything we could to eliminate and mitigate the risks, but what we couldn't mitigate was the behaviour of the island itself. That, in itself, was concerning (Military Commander).

This situation described above was highly contextualised, nuanced, and characterised by volatility, uncertainty, ambiguity, complexity and the appropriate matching of risk and opportunity. It called for critical sense-making and decisive decision-making, yet an armchair critic was able to reduce all these factors into an uncomplicated course of action, seemingly without the benefit of operational knowledge, context, or data. Williamson, (2007, as cited in Bloch-Schulman, 2016, p. 2) describes this armchair function as comprising "thinking, without any special interaction with the world beyond the chair, such as measurement, observation or experiment would typically involve".

Unofficial (spontaneous) leaders/responders

Official first responders have a limited ability to meet the surge requirements of a significant extreme context. During the 2013 Wellington storm, FENZ took nearly three thousand calls and logged approximately two thousand jobs (Interviewee 1 - Controller, personal communication, September 30, 2019). This workload was well beyond their peak response capability.

Accordingly, some jobs were rerouted through the EOC to response teams, while others were managed with the assistance of friends and neighbours. Many Christchurch earthquake victims were assisted by work colleagues and those in the immediate vicinity (New Zealand Government, 2021). These are people who take ownership of the situation, in a manner that may range from an 85-year-old lady in Papatoetoe who clears the drain gates on the road outside her house every time there is heavy rain to mass groups like the Student Army operating in Christchurch (Christchurch Student Volunteer Army, 2020). You cannot control the actions of these groups; however, you can help shape their response by providing PPE, tools, safety routines, and suggesting priority tasks (Interviewee 1 - Controller, personal

communication, September 30, 2019). The answer is not always giant student (farmers or any other group) armies as witnessed in Christchurch but empowering local community groups to own their patch – in the manner designed by WREMO with their Community Emergency Hub (WREMO, 2021).

Māori

The easy and politically correct response to whether Māori require elevating beyond consideration of diversity factors is to refer to Treaty obligations. However, mere compliance masks those factors that not only warrant consideration but also add value during an extreme context. Such an approach within New Zealand is consistent with the value of alternative perspectives to the traditional diet of western culture and its influence on leadership theory, discussed further in Chapters five and nine.

When asked what we should be looking for in an operational leader, one response was:

Someone who is anchored and has good foresight and, can you know, can take on a lot of perspectives. . . . Someone that knows about our history and where we have come from. I think that is really important, to know how to move forward, that is inclusive of the whole nation. . . . (When asked what sort of history, the response was) . . .

Probably even pre-colonisation, because - simple. We were covered in trees. And now our rivers are full of logs. . . . A history of the Whenua and how to make - mend it (Interviewee 19 - Member of the public, identifying as Māori and blogger, personal communication, August 20, 2020).

This situation hints at dimensions (including history, knowledge, and stewardship) beyond those factors comprising effective means of engagement with diverse groups. It also supports scholarship on wicked problems (Grint, 2008), expressed in Chapter two, requiring the transfer of authority from the individual to the collective, turning the situation around for those affected to solve.

Māori response initiatives have demonstrated how cultural knowledge, values and practices may be utilised to respond to disasters and support community resilience. Foundational values including genealogy, family, guardianship, hospitality and respect interweave with cultural practices such as the operationalising of marae in order to provide broad-based support for communities in times of adversity (Kenney, Phibbs, Paton, Reid, & Johnston, 2015, p. 18).

In diagrammatic form, this is depicted as (p. 11):

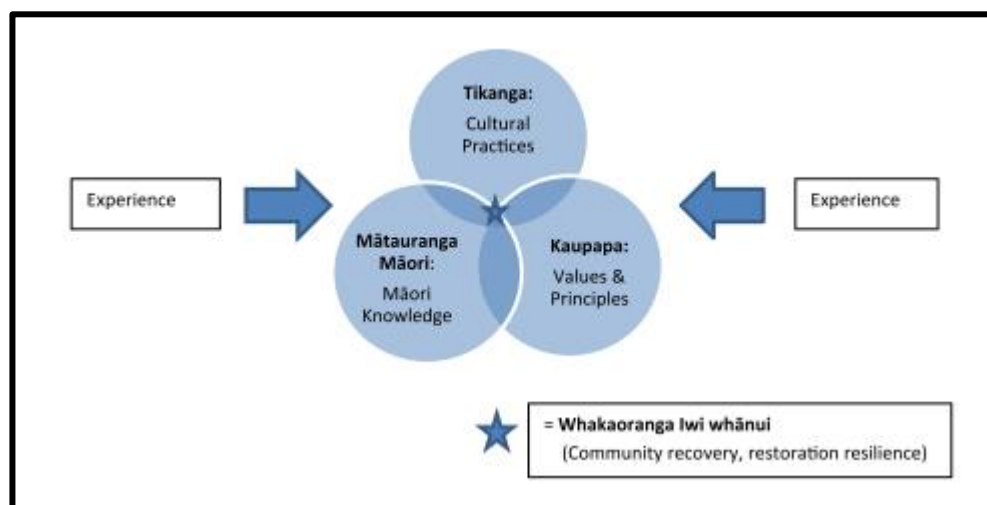


Figure 19 Conceptualisation of Traditional Māori Approach to Disaster Risk Reduction

Diversity

Present in any heterogeneous grouping are many perspectives, priorities, motivations, distractions, levels of comprehension, ability, willingness to listen (and to whom), and accessibility to messaging. In addition to this, there is the dimension of time, whether people are engaged pre-event, commencing resilience-building measures beforehand, and then taking ownership of their circumstances once an extreme context occurs.

To effectively manage this leadership-follower interface, therefore, requires a degree of analysis of those being led and an understanding of the credibility they attach to message sources. As distinct from adaptive leadership, which forms part of the Hannah et al. (2009)

model, focusing on the actions of leaders in the relationship, followership examines the critical role followers play in the process (Northouse, 2019). This situation is consistent with the approaches outlined in previous chapters of this thesis, by Douglas (1993) in Figure 5 on page 24 and even to a degree by Burrell and Morgan (1979) in Table 5 on page 40.

This level of analysis has seen the emergence of (two-by-two) matrices. These break down blanket followership into discrete and manageable categories of homogeneity. Some of the sets of criteria employed to achieve this include:

Zaleznik Follower Typology.

Zaleznik's psychological approach (as cited in Northouse, 2019, p. 297) categorises using follower responses in their relationship with authority. Some people are willing to submit to authority (masochistic), others are rebellious or spontaneous (impulsive), some people care little about what happens (withdrawn), and there are those wanting to dominate but are uncomfortable publicly with these tendencies.

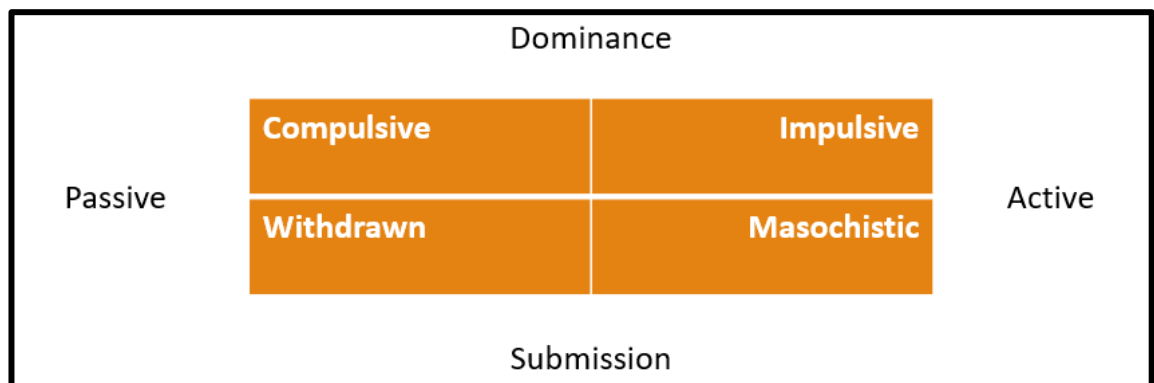


Table 16 Zaleznik Follower Typology

Kelley Follower Typology.

With one axis the same as Zaleznik (activity) and the other similar; independent critical thinking versus dominance, Kelley (as cited in Northouse, 2019, p. 298) derives five categories. These are colloquially known as sheep (passive followers), "yes people" (conformist followers), critics (alienated followers), fence-sitters (pragmatists), and star (exemplary) followers –

people who are supportive and although they may offer criticism, this will be constructive by nature.

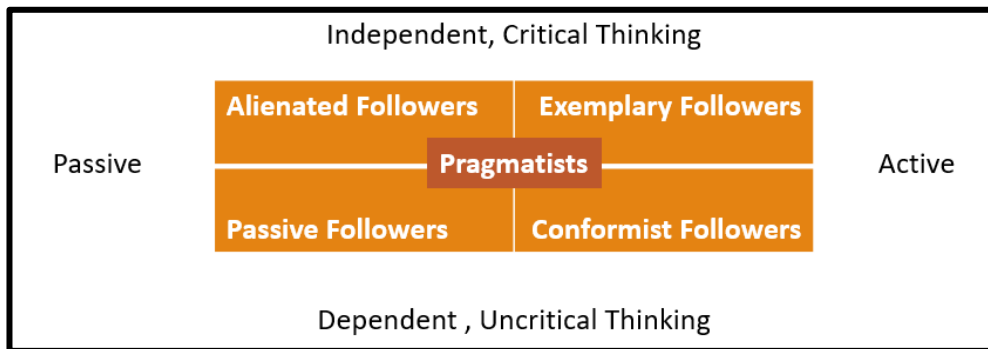


Table 17 Kelley Follower Typology

Other Typologies

Compare the examples above with Douglas’s matrix of structure and group loyalty, outlined on page 24. Based on a Covid scenario, this model sees categories as follows - there is little that can be done, or we are all doomed (fatalists), someone needs to take charge and drive us down the path (hierarchists), the strongest will survive (individualists), and a collective approach is best (egalitarianists).

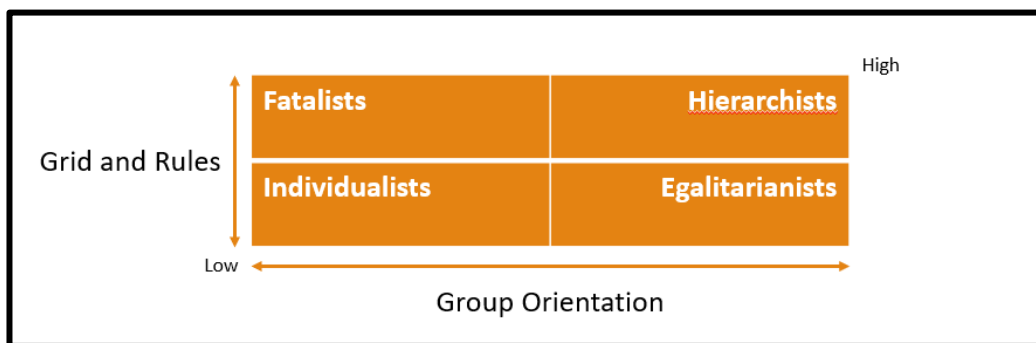


Table 18 Douglas Matrix of Structure and Group Loyalty

Any of these categories may have relevance depending on the nature of the context and the material resource, along with the mood of the people affected. Consequently, it is incumbent on leadership to understand the forces at play and any resulting tensions/moods within those components of the leadership system.

In certain circumstances, there may be other, more relevant factors. In an article challenging the pressure placed on people from lower socioeconomic groups to conform to household resilience-building measures (Blake, Marlowe, & Johnston, 2017), the authors chose a principled rather than a pragmatic approach to resilience-building. They labelled this pressure as “structural violence” and criticised Emergency Managers accordingly. An alternative may have been to view the challenge within a broader societal framework and promote a suite of measures to satisfy the needs and capacities of all. If those people in the upper and right quadrants were able to meet a level of resiliency, then there would be more public resources available to support those less fortunate, as follows:

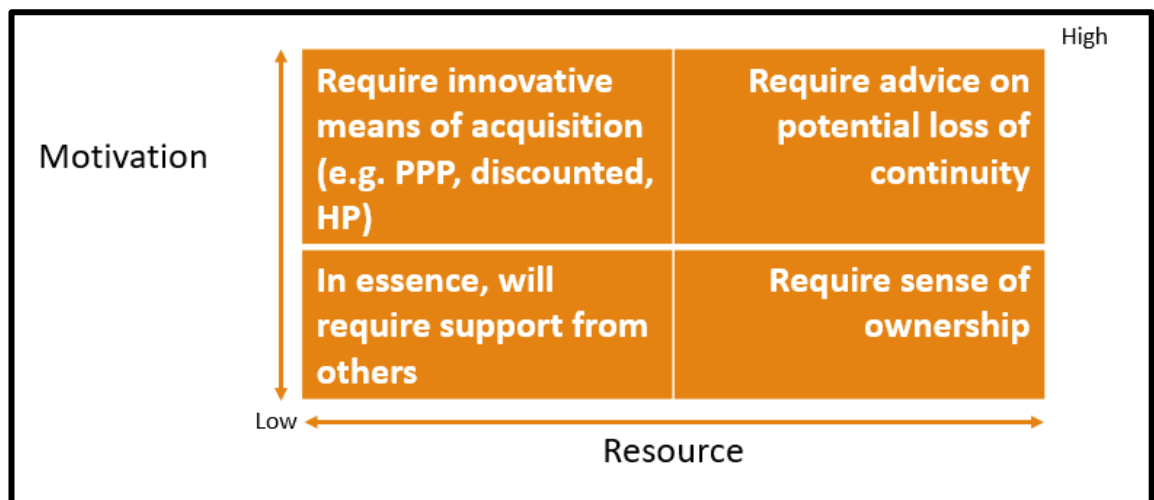


Table 19 Pepperell Matrix of Resilience-building Measures

Grint

A multi-pronged approach that deals with the needs of people in each of these quadrants is consistent with the assertion by Grint (2008) that “elegant approaches don’t solve wicked problems, but clumsy solutions might” (p 17). Building on the Douglas model on 104, he states:

The techniques relating to Wicked Problems tend to emerge from one of the three elegant frames, thus from the Hierarchists, we considered the role of asking questions not providing answers, the issue of relationships over structures, and of reflecting on rather than reacting to Wicked situations. From the Individualist we considered the

importance of Positive Deviance not Negative Acquiescence, the encouragement of Constructive Dissent over Destructive Consent and the role of Negative Capability. Finally, from the Egalitarians we considered the use of collective intelligence not individual genius, the building of a community of fate not allowing a fatalist community to prevail, and to adopt an empathetic rather than an egotistic approach. I will finish with this quote from Laurence J. Peter: ‘Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them.’ (p 23-24).

All these approaches point to the importance of understanding the needs and motivations of all those in the collective term loosely described as followers, whether they be supporters or critics. This goes well beyond the limited component of the people function (described as welfare) found in the CIMS manual (Department of the Prime Minister and Cabinet, 2019).

Market Forces

Following the market-led restructuring and deregulation introduced by the Labour government in the mid-1980s, market forces have long been seen as the panacea for abnormal price/availability/market fluctuations. The inference is that markets are self-governing and do not require more formal oversight (Bevir, 2012). Commodity supply and demand result in price equilibrium, and adjustments occur when the propensity to consume or supply fluctuates. Under these arrangements, problems arise where markets are dominated by extreme factors, for example, a monopoly, coordinated price-fixing, or prolonged disruption to the supply chain. This situation then requires intervention by governance bodies to rectify the anomaly. It may be that a similar situation arises when social equilibrium is interrupted by an event of extreme context, resulting in the emergence of dichotomies:

- a. Supply versus demand. Similar to the circumstances outlined above, this could affect consumer goods and the availability and cost of insurance; and,

- b. Order versus change (Burrell & Morgan, 1979, p. 11). Some people cling to the desire to return to “the previous” normal during the resulting disruption. Others see the situation as an opportunity to implement change (e.g., entrepreneurs, governing bodies).

Can these challenges be resolved through the simple restoration of equilibrium or through clumsy solutions to wicked problems in a manner previously described by Grint (2008)?

During the intervening years of the two World Wars, modern planning theory emerged, promoting a rational approach based on centralised knowledge and hierarchical organisations (Rittel & Webber, 1973). This situation, in turn, led to counter theories, one in particular, “Wicked Problems.” These wicked problems were difficult to solve, unique, and complex in that there were many and varying contributing factors to their existence. This observation meant that typical planning for their avoidance, mitigation, or a tailored, effective response was not possible. Planning theory protagonists maintained that wicked problems were a sign of the inadequacy of hierarchies (and their resulting siloes) and that networks as a structure were better suited to solving them (Rittel & Webber, 1973).

This would indicate that in addition to the critical components of context and leadership when responding during extreme contexts (Osborn et al., 2002), how leadership (or authority) is exercised as well as the ‘people’ factor, are all similarly key considerations when formulating an acceptable solution.

Cultural Analysis

Given the importance of the people component of the leadership system, and the options outlined above to analyse the motivation, moods, and orientation of such a disparate group(s), it seems logical for some form of cultural analysis to occur. However, the only overt example of this was a model used by the US military to understand cultural factors that may influence/impede their ability to prosecute successful military operations in Iraq and Afghanistan. Labelled Human Terrain Mapping, at its height, saw 500 social scientists

(anthropologists, sociologists, political scientists, and linguists) imbedded as part of HQ staff to provide strategic, operational, and tactical commanders with a better understanding of the local population and theatre adversaries (González, 2020). As a concept, it had its share of supporters but was eventually shut down in 2014 following prolonged public and academic ethical concerns. Notwithstanding it may have been a questionable idea, and poorly implemented, it does beg the question of why the same level of analysis is not conducted for less controversial extreme contexts, with benefits for the leadership/public interface.

Key findings and observations

Taking the cumulative input from interviews produces a raw consolidated model as follows:

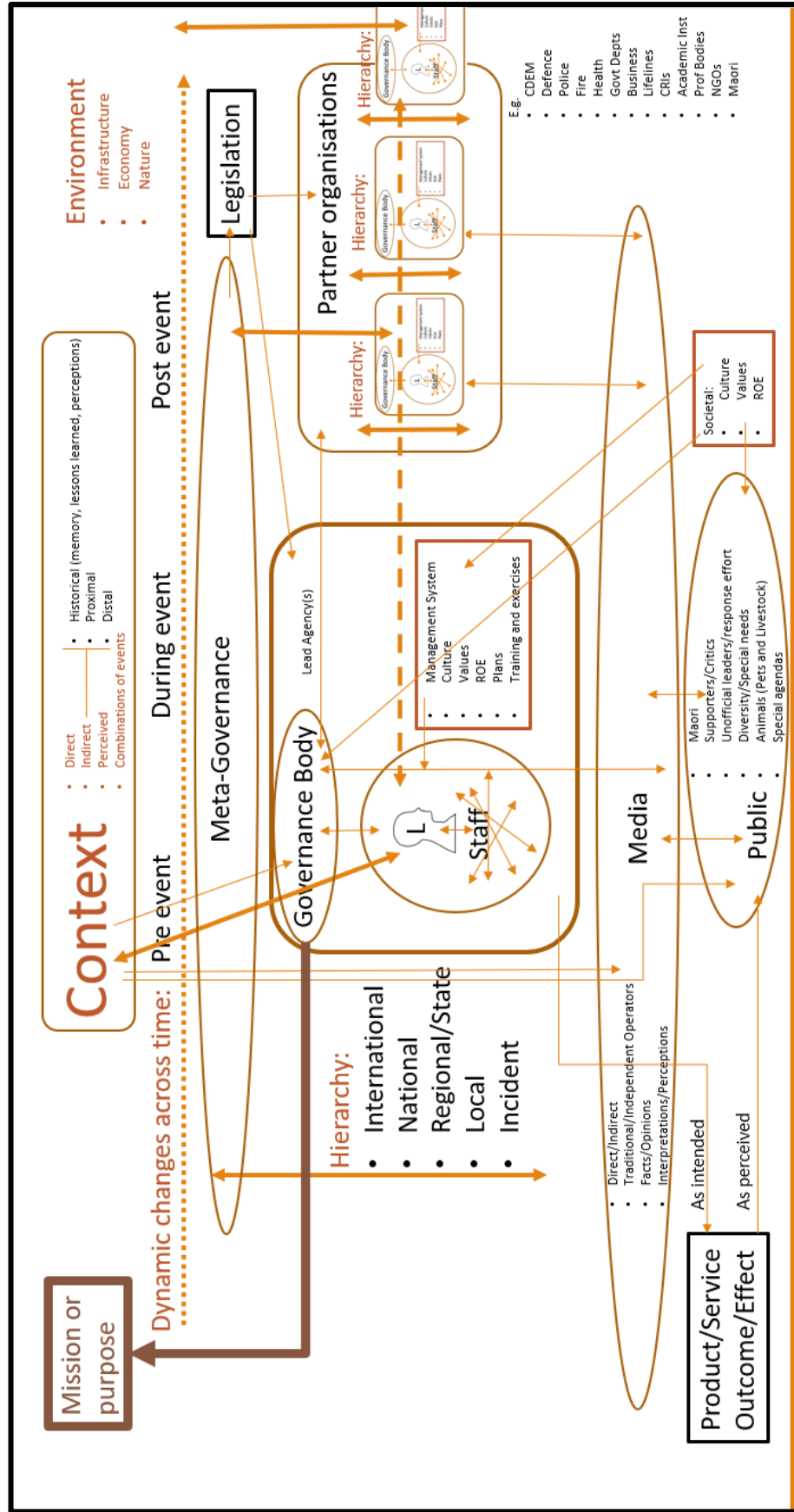


Figure 20 Systems Approach “as is” model

Particular observations arising from the model are:

- a. The existence of a demonstrable system, complete with elements working together as parts of an interconnecting network or organism.
- b. The importance of all those factors registering as part of the context.
- c. The fragmented approach. If you were designing a response network from scratch, it is doubtful that this would be viewed as the optimal model. The origins of this fragmentation are considered further in Chapter five.
- d. The time dimension (before, during, and after an event). So much of the capability has to be established pre-event, which is sometimes the responsibility of another organisation.
- e. The need for horizontal and vertical integration of leadership.
- f. The importance of relationships in making the approach work.
- g. The increased importance of the response leadership role if specific preparedness initiatives have not been conducted in advance.
- h. The importance of multi-agency operability.
- i. The existence of potential filters and barriers to getting the message from leadership to the public.
- j. The potential mixed messages that can occur as a result of the multiple and disparate media operators.
- k. The potential for many points of failure amongst the many and varied system entities.
- l. The difficulty associated with achieving universally accepted, successful outcome(s).
- m. The existence of a recurring leadership unit (labelled the Leadership Team for this thesis). These teams occur horizontally across partners and vertically throughout formations within homogeneous organisations.

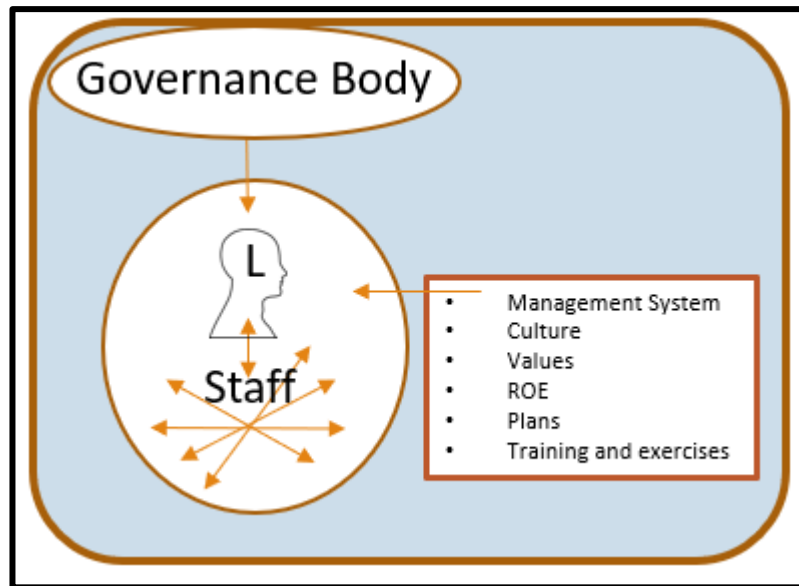


Figure 21 Leadership Team

The Leadership team

This team comprises a standard suite of components (entities, intangibles, and articles) and forms the basic building block of the leadership system. While there was a degree of uniformity among the teams, the individual structures allowed for a degree of customisation tailored to meet their needs. The team components were described in more detail earlier in the chapter. The discussion on exercising authority in Chapter five and analysis of the research case studies in Chapter six confirm similar teams across business, emergency management, the military, and sport. As shown in the figure above, the team acts as a force-multiplying exoskeleton for the official leader, in a similar manner achieved by the movie character Tony Stark when putting on his exoskeleton suit and becoming Iron Man (Stan Lee, 1963).

The Leadership system

For simplicity, the diagram on page 109 has been stripped of the details related to context, purpose, and people (considered separately, later in the thesis) and reproduced as a systems layer. This modified diagram highlights some of the challenges inherent in conducting multi-agency operations in a multi-threat environment (discussed further in Chapter ten).

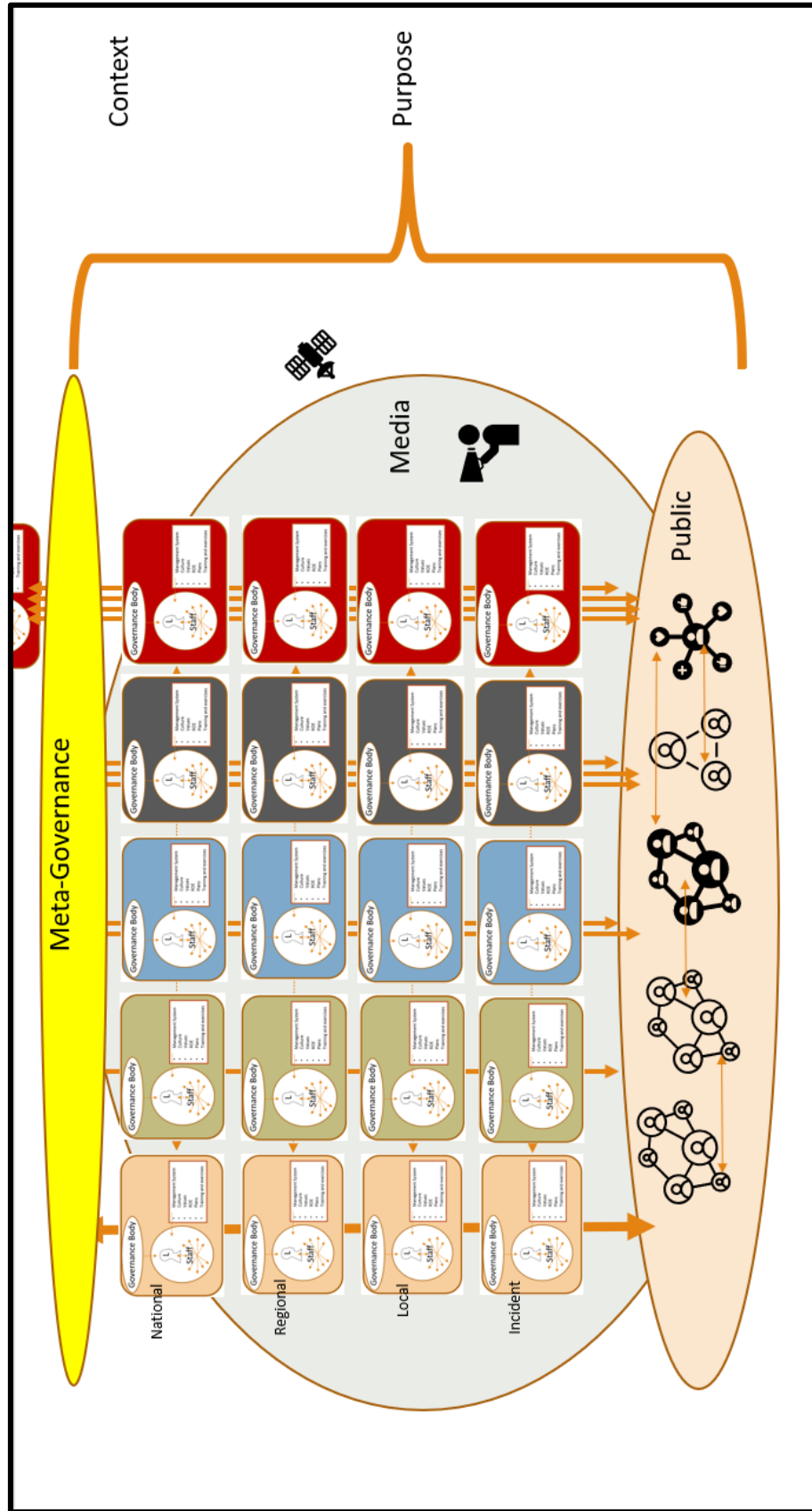


Figure 22 Leadership Capstan - Systems Layer

Those Factors Inherent in Extreme Contexts

For relative simplicity, the model in Figure 20 includes only entities and where there are relationships, not the nature of those relationships identified during interviews. This additional detail would have led to a model that was too complicated. Notwithstanding this, previous research has been undertaken to capture and examine those factors associated with crises. In their paper on crisis leadership in a hyper-VUCA environment, Alkhalidi, Austin, Cura, Dantzer, Holland, Maples, Weinkle, et al. (2017) outlined the stakeholders and dependencies that must be managed whilst dealing with the crisis itself. While this presents a vivid picture of the many factors that require careful management, it does not identify the leadership system's entities. Their mind map is as follows:

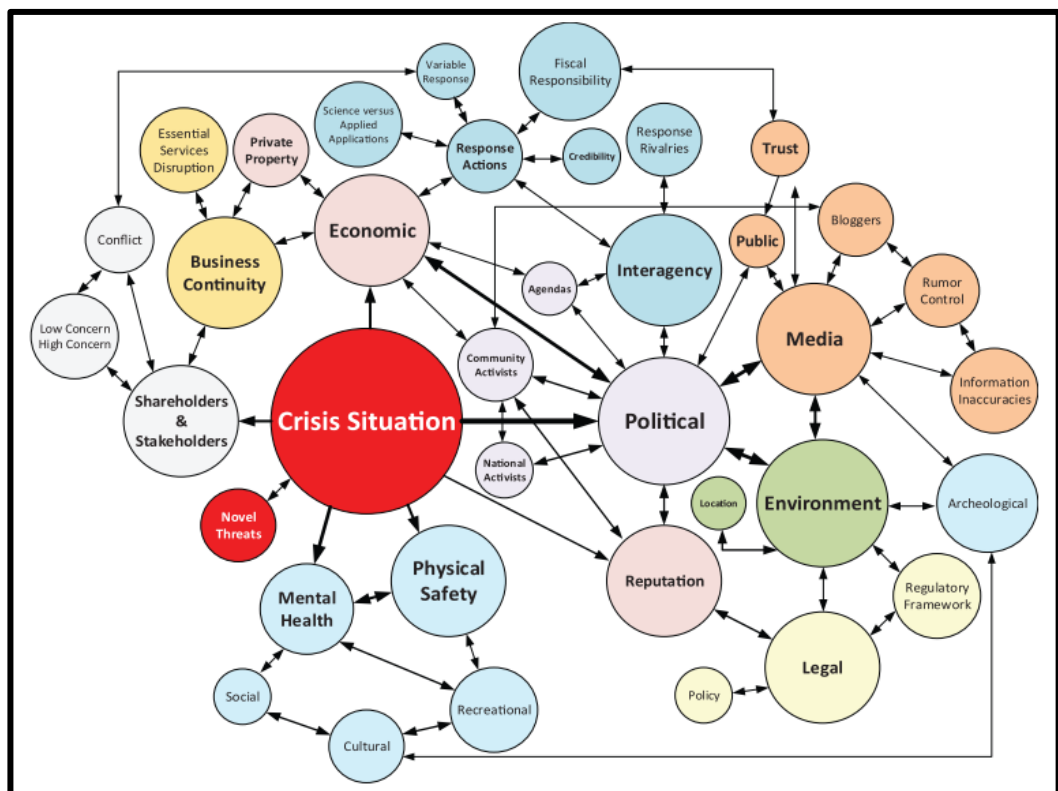


Figure 23 Crisis Situation Map and Dependencies

(Alkhalidi, Austin, Cura, Dantzer, Holland, Maples, Weinkle, et al., 2017, p. 119)

Observations

Very few of the individual comments contained in this chapter are either unexpected or particularly insightful. What is of relevance, however, is the cumulative effect which paints a picture of:

- a. Complexity, with numerous entities needing to be aligned and channelled during response operations.
- b. The potential challenges associated with leading disparate teams, even against a common threat.
- c. The importance of context and its many elements in influencing the actions of leadership and the general public.
- d. The potential for public confusion, with so many leading agencies and where direct messaging is ineffective.
- e. The nature of the general public as a series of networks rather than a single homogeneous grouping.
- f. The possibility of a diminished role for “the single-person leader” inside an effective leadership team.

This latter concept of a leader being only a part (albeit an important part) of the leadership system is consistent with previous research in the corporate sector (Khurana, 2002, 2004), which reveals at best a tenuous link between a leaders’ (Chief Executive’s) performance and the business results of the parent organisation; with estimates of 30 to 45% the result of industry effects and another 10 to 20%, due to economic changes. This outcome is consistent with research conducted by Roquebert, Phillips, and Westfall (1996) as cited in Schoemaker (2002), with the latter publication looking for opportunities to enhance profitability during times of uncertainty. Note, in the model emanating from the research, the different weightings provided to business unit actions versus corporate management.

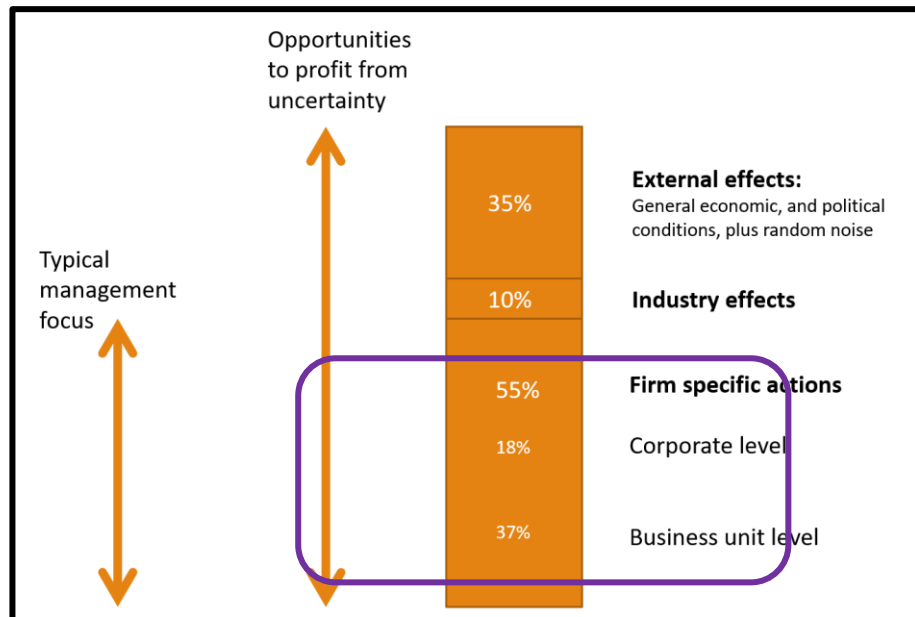


Figure 24 *Half the business is left to fate.*
(adapted from Schoemaker, 2002, p. 6)

Chapter Summary

This chapter examined and confirmed the value of a systems approach to leadership in extreme contexts, with key findings as follows:

- The resulting system model built with input from interviews promotes an enhanced view of leadership as part of a broad networked practice in which “the traditional leader role” is distributed and but one component of a much more extensive neural network of entities, relationships, and actions.
- It also highlighted the challenges within relationships occurring as part of the system. While many of the components identified during the research may not be particularly significant in themselves, collectively, they paint a picture of complexity and interconnectivity, and point to some of the softer competencies required to run a successful response operation. This last aspect is examined in greater depth in Chapter five.

- While the commentary mainly focused on a public sector environment, parallel system examples exist in other sectors with an extreme context/leadership/people interface. These are considered further in Chapter six.
- The current system “as is” model has several pressure points that could lead to failure. This thread is developed further in the discussion in Chapter ten.

Chapter 5: Exercising Authority - Interrogating Theory and Convention

Introduction

The need for this chapter arose from misunderstandings and inconsistencies discovered during the initial post-interview analysis. When asked to explain differences in how people exercise authority during extreme contexts, answers were superficial and lacking in consistency. This apparent lack of understanding prompted a re-examination of the scholarship discovered in the literature review, leading to a broader range of related topics. These, in turn, shone the spotlight on western thought's domination of published (and accessible in English) leadership theory and practice.

The literature review also revealed several “in vogue” articles and books that appeared to miss the intent of concepts as originally proposed. The contents of these documents warranted further investigation.

Put simply, it is challenging to understand leadership in extreme contexts without first examining leadership theory and how people exercise authority. This chapter is intended to investigate the DNA of leadership thought and practice, to establish a standardised foundation for research and analysis conducted as part of this thesis.

Cultural Perspectives

Hofstede (1980) uses a simple optical illusion image to emphasise the importance of cultural conditioning to explain differing perspectives. One particular image he uses represents either a young woman or a much older woman depending on how it is viewed. He starts by asking half the audience to close their eyes while he shows a modified version of the image (revealing only the young lady) for a five-second viewing interval and then repeats the process for the other half, this time showing a modified version of the older woman.



Figure 25 Optical illusion

He then displays the ambiguous version to the entire audience. As a general rule, those first shown the young lady tend only to see the young lady and vice versa for the remainder of the audience. He then asks two participants to explain what they see until everyone can differentiate both images. His message to the audience is that if he can shape their perspectives in a mere five seconds, then imagine the innate differences in people whose perspectives have been acquired through conditioning over several decades.

Several decades of research went into developing his Cultural Dimensions Theory which categorises (some of) the differing cultural baselines for viewing and comparing the actions of people and groups. Hofstede (1980) initially identified four such dimensions, however, this was later modified to six, being:

- a. Power distance - the extent to which lower-status members of groups accept/expect an uneven power differential.
- b. Uncertainty avoidance - tolerance by society for ambiguity,
- c. Individualism as opposed to collectivism – the extent to which society is integrated or, more commonly, I versus we.

- d. Masculinity versus femininity – the dichotomy of male versus female values.
- e. Long as opposed to short term orientation – the pre-eminence of current versus future considerations.
- f. Indulgence as opposed to restraint – the extent to which society permits individual indulgencies.

Using Hofstede's research, it is possible to view the different national approaches to the various criteria, thereby establishing a baseline for analysing actions. For instance, the following charts the degree to which nations align against the Power-Distance and Uncertainty Avoidance criteria. This analysis sees countries including New Zealand, the USA and Australia grouped (low power-distance index, higher acceptance of uncertainty). Other nation blocks, including Singapore, Hong Kong, and the Philippines ((high power-distance index, high acceptance of uncertainty) and Japan, France, and Greece (high power-distance index, extremely low acceptance of uncertainty), as follows:

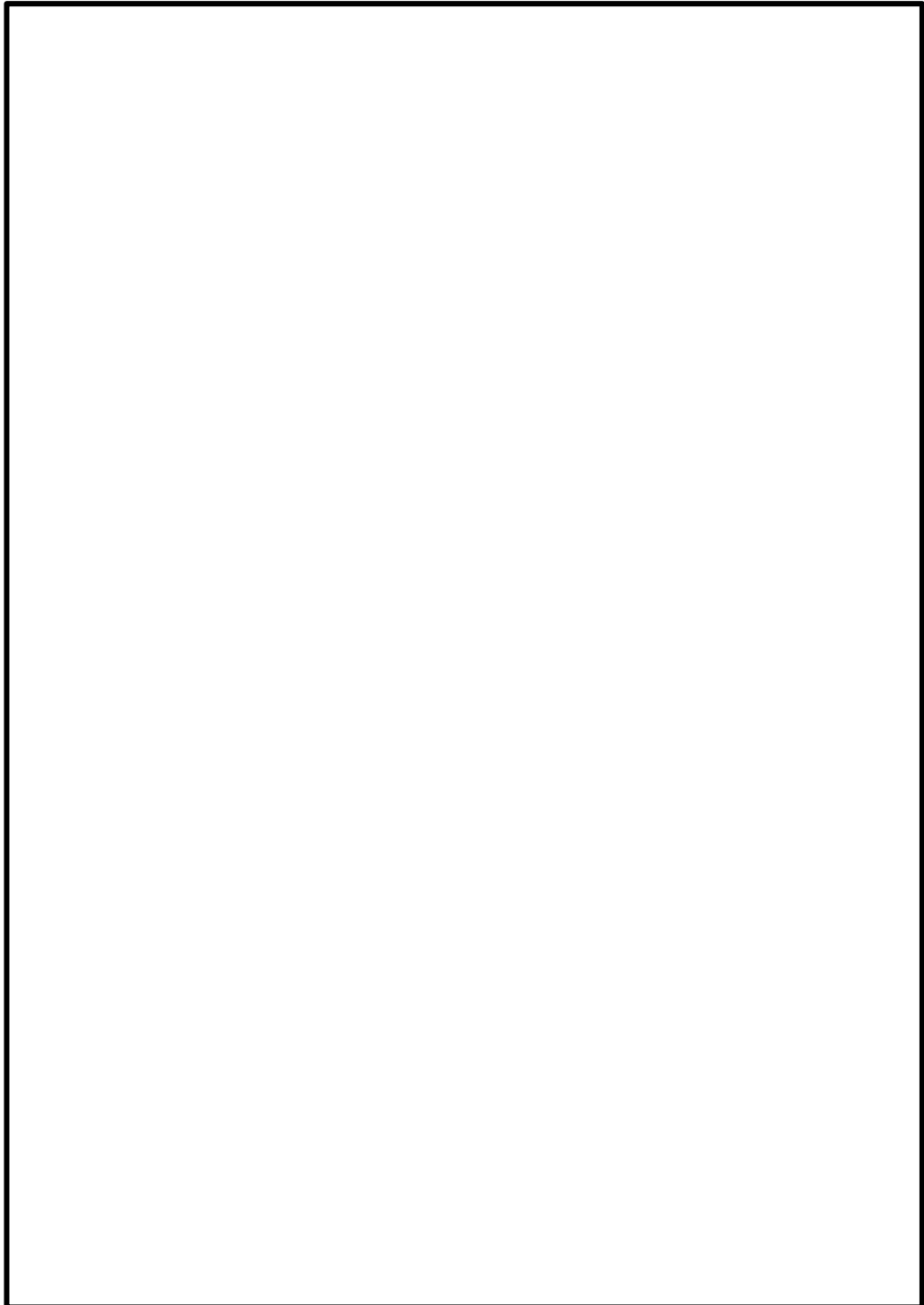


Figure 26 Positioning 40 Countries against Cultural Dimensions
Reproduced from Hofstede(1980, p. 51)

The relevance here for leadership is that differences in approach have occurred depending on the baseline conventions of the era/country. Here, Hofstede (1980) provides several examples. He particularly highlights Machiavelli (1468-1527), who wrote within the context of post-

middle-age Italy. Here, a power-distance index would have been more pronounced than it is now (strong uncertainty avoidance and large power-distance index), describing the prevailing techniques for manipulation and retaining authority (e.g., through misrepresentation, bribery, and even murder). This situation is in contrast with twentieth-century USA (higher tolerance of uncertainty and a much lower power-distance index), where much of our contemporary leadership theory originated. It, therefore, comes as little surprise within a modern US context to find concepts like leaders promoting worker participation in decision-making. Of interest in Figure 26 is the grouping of countries with a strong Chinese influence; Singapore and Hong Kong (noting China and Korea were not a part of the research), with a large power-distance index and a high tolerance for uncertainty.

East versus West

Taking this concept a step further, compared with eastern cultures which tend to view things as part of a broader system, western culture (lower power-distance index, higher appetite for uncertainty) strives to simplify things in a deterministic way, focusing on key people or objects, without reference to broader factors.

European thought rests on the assumption that the behaviour of objects – physical, animal, and human – can be understood in terms of straightforward rules. Westerners have a strong interest in categorization, which helps them to know what rules to apply to the objects in question, and formal logic plays a role in problem-solving (Nisbett, 2019, p. xvi).

Thus, by knowing the rules covering objects, people can better understand cause and effect and, therefore, shape outcomes.

Nisbett (2019) further adds that East Asians (more specifically, people from Japan, Korea, and China) tend to view those same objects within their broader context. Components cannot be understood without first understanding the system within they dwell. An excellent example of

this, that most westerners will at least partially understand, is the Chinese concept of feng shui, the system of laws that determine appropriate spatial alignment concerning energy flow inter and intra-building (Matthews, 2019). A powerful example of a western approach that most can identify with is the spelling rule, “I before E except after C” (Raymond, 2019). It is a rule that has endured, notwithstanding the numerous exceptions (including science, species, seize, caffeine, weird).

Given that culture plays such a significant role in determining leadership approach and practice (Liu, 2017), it is worth critically examining the differences between an eastern (e.g., Chinese) and western approach to better understand whether alternative perspectives of leadership are worth considering. This viewpoint might provide greater understanding, perspective, and clarity to our approach.

Chinese culture is an eclectic combination of Confucianism, Daoism, legalism, Buddhism, and emerging traces of modern western values (including individualism, free-market economy, and liberalism) (Liu, 2017; Mingzheng & Xinhui, 2014; Nisbett, 2019; Wang, 2008). When combined, these promote the concepts of scholarly endeavour, collectivism, harmony, family, benevolence, and adherence to moral laws and authority.

The relevance of these concepts to leadership in extreme contexts may be found in the following principles stripped for their overarching philosophies (Liu, 2017):

- a. Group interests and harmony is more important than the rights of the individual.
- b. The key to harmony is baseline equity, particularly in areas such as economic conditions and health.
- c. Perceived benevolence is a powerful motivator of the people.
- d. The people will follow those with an inner morality.
- e. Respect is a two-way street. Respect subordinates and they will respect you.
- f. Respect for filial authority and the law is vital.

- g. Building and maintaining effective social and professional networks is essential to achieving effective personal and organisational development.
- h. Having power (whether legitimate, coercive, through reward, informational, or referent) is the key to influencing others.
- i. Good leaders use a combination/balance of soft approaches (Confucianism) and hard approaches (legalism) to achieve desired outcomes.
- j. Leaders should be a servant of the people.

While these principles may seem remarkably similar to some western leadership concepts and philosophies (moral leadership, servant leadership, benevolent leadership, paternalist leadership, and Christian socialism), in Chinese society, individuals are made to feel part of an extensive and complex organism that is well-disposed to their collective interests and where people understand their place and purpose (Nisbett, 2019). Accordingly, East Asians can easily link events and have difficulty disentangling objects from their environment. In contrast, people from a western culture often overlook the importance of context on the conduct of things or people.

An interesting analogy to this leadership situation may be found in Chen and Lee (2008), which explains that the restaurant business in China differs from the West in that “traditional Chinese food is not standardized, which makes the quality of the food, dependent on the culinary skills of the chef” (p. 255). In contrast, the process is recorded as recipes in the West, so desired results can be repeated consistently. But can a leadership approach be recorded in the form of a sure recipe?

In East Asian culture, people accept contradictory approaches and see situational factors as pivotal in influencing behaviour. In western culture, people rely heavily on personality traits to explain that same behaviour (Nisbett, 2019).

Western Categorisation

And so, it has been since 380 BC, when Plato announced that those best able to lead had the greatest intelligence (Pendleton & Furnham, 2016). This understanding was followed in more recent times (1840) by Carlyle, and his Great Man theory (Spector, 2016), with leadership theory gaining pace over the past 100 years with a succession of western civilisation attempts to codify and categorise leadership. These can be viewed from many different perspectives, a few of which are as follows.

Categorising the Theoretical Spectrum

Expanding the evolutionary progression of leadership theory provided in Table 1 on page 20 and combining this with the approach proffered by Bungay (2011), Figure 3 on page 21, a similar but enhanced table has been constructed from material examined as part of the literature review.

This table represents those theories, models, and approaches across a broader spectrum of exercising authority (leadership, management, and command). Included in the table are a variety of approaches commencing with the divine (as characterised in the Ten Commandments), a normative model (Great Man) by Thomas Carlyle, plus the more rational approaches of Plato (based on intellect) and Taylor (Scientific Management). There are theories where scholars have built on or complemented the concepts of others (colour-coded in the table – e.g., TQM and Baldrige). In others, scholars have proffered variations of the same approach (Stogdill, Fiedler, Bass, and Lewin). As the sector has matured, new theories have been developed in opposition to earlier concepts (Sociotechnical Systems v Scientific Management). In comparison, others have been discounted over time (Great Man). Across the spectrum, there has a degree of cross-pollination with management theories (in blue type) appearing to influence leadership theory (green type), examples being Tom Peters' "In Search of Excellence" and Transactional Leadership.

Blank

	Date	Leadership, Management, and Command Theories and Models
1	BC	Divine direction (Exodus 20)
2	BC	Divine direction through monarch/representative
3	380BC	Intelligent Leadership (Plato)
4	1807	Mission Command (Prussian High Command)
5	1814	Military Staff System (Prussian High Command)
6	1841	Great Man theory (Carlyle)
7	1880	Scientific Management (Taylor)
8	1920s	Role Theory (Mead, Parsons, Merton)
9	1932	Hawthorne Studies (Pennock, Mayo)
10	1930s	Participative Leadership
11	1939	Lewin's Leadership Styles
12	1946	Organisational development (Lewin)
13	1947	Continental Staff System (US Mil)
14	1948	Trait Theory (Stogdill)
15	1949	Sociotechnical Systems Theory (Trist)
16	1950	Behavioural Theories (Stogdill, Katz et al)
17	1954	Hierarchy of Needs (Maslow)
18	1954	The practice of Management (Drucker)
19	1955	Leadership Skills (Katz)
20	1958	Charismatic Authority (Weber)
21	1959	Hygiene and motivational Factors (Herzberg)
22	1960	Theory X and Theory Y (McGregor)
23	1964	Management Grid (Blake, Mouton)
24	1967	Likerts' Leadership Styles
25	1967	Contingency Theory of Leadership (Fiedler)
26	1968	Incident Command System (Fire Chiefs, Phoenix Arizona)
26	1970	Servant Leadership (Greenleaf)
27	1971	Strategic Contingencies Theory (Hickson)
28	1973	General Theory of Planning (Rittel and Webber)
29	1973	Vroom-Yetton Normative Model (Vroom and Yetton)
30	1974	Path-Goal Leadership Theory (House)
31	1975	Psychodynamic Leadership (Zaleznik and Kets de Vries)
32	1975	Leader-member Exchange (Graen and Cashman)
33	1977	Situational Leadership (Hersey, Blanchard)
34	1978	Performance Technology (Gilbert, Rummler)
35	1981	Transactional Leadership (Bass, Avolio, Jung, Berson)
36	1982	Excellence (Peters and Waterman)
37	1983	Total Quality Management (insp by Feigenbaum and Ishikawa)
38	1984	Upper Echelon Theory (Hambrick and Mason)
39	1985	Transformational Leadership (Downton, Burns, Bass)
40	1987	Cognitive Resource Theory (Fiedler, Garcia)
41	1987	VUCA Leadership (Bennis and Nanus)
42	1987	Baldrige Performance Excellence Framework
43	1990	Learning Organisation (Senge)

Table 20 Evolution of Theory

	Explanation
1	Authority exercised by deity
2	Authority exercised through annointed person
3	Most intelligent suited to lead
4	Command, combining centralised intent and decentralised execution
5	Management system for organising military staff
6	Certain men are born to lead; Origins in Plato, Lao-tsu, Aristotle, and Machiavelli
7	Theory of management that analyses and synthesises workflow
8	Provides a model of behaviour in a specific situation, based on simulations
9	Social dynamics leading to increased productivity
10	People more committed to actions where involved in the relevant decision-making
11	Categorised 3 Leadership styles: Autocratic, Democratic, and Laissez-Faire (delegative)
12	Organisational stuctures and processes influence worker behaviour and motivation
13	Military staff system; adopted by NATO, and adapted most modern armed forces
14	Building on Great Man theory - Leaders share special characteristics
15	Environment, social, and technical subsystems + OD. 180 deg departure from No. 7 (SM)
16	Leadership behaviours (people and task) identified
17	Graduated scale driving motivation
18	Sets 5 basic roles of managers
19	Leaders require skills (technical, conceptual, and interpersonal) in order to be effective
20	Special personality characteristic gives a person exceptional powers
21	Certain factors in the workplace cause satisfaction. Other factors cause dissatisfaction
22	Separate management approaches that view worker motivation and goals differently
23	5 leadership styles depending managers' concern for people and concern for for task
24	Styles defined as exploitative auth, benevolent auth, consultative, and participative
25	Best leadership style is one that best fits a given situation
26	Incident Management hierarchial system adapted from the US Navy
26	Most effective leaders are servants of their people
27	Leader depends on problem-solving ability and a projective personality
28	Leadership approaches to probs beyond our experience (difficult or impossible to solve)
29	Situational leadership theory, identifying 5 styles of leadership
30	Leaders' effectiveness dependent on employee and environmental factors
31	Rooted in Freud; leaders should know their personality type plus those of followers;
32	Depends on the relationship leader has with followers of in-group and out-group
33	Directing, coaching, supporting, delegation, based on maturity/dev needs of follower
34	Field related to process improvement (forerunner of 6 Sigma)
35	Focusing on supervision, organisation, and performance (using reward and punishment)
36	Book - In search of Excellence, looks at organisational effectiveness
37	Systematic environmental approach to improve products that customers find of value
38	Org outcomes are predicated by characteristics of the top level management team
39	Positive expectation leads to inspired, empower, stimulated levels of performance
40	Focuses on intelligence and experience in the reaction to stress
41	Model for volatile, uncertain, complex, and ambiguous environments
42	Non-prescriptive, holistic framework leading to org effectiveness and sustainable results
43	Org an organism with capacity to enhance capabilities, devised from Systems Thinking

	Date	Leadership, Management, and Command Theories and Models
44	1990	Leader Follower Theory (Gilbert and Matviuk)
45	1991	Implicit Leadership Theories (Lord et al)
46	1994	Adaptive Leadership (Heifetz)
47	1999	CYNEFIN Framework (Snowden, Kurtz, and Boone)
48	2000	Business Process Management
49	2001	Team Leadership Model (Hill)
50	2001	Level 5 Leadership (Collins)
51	2003	Authentic Leadership (Avolio, Luthans)
52	2004	NIIMS -National Inter-Service Incident Management System(DHS)
53	2005	Strategic Leadership (Ireland and Hitt)
54	2006	Meta-Leadership (Marcus and Dorn)
55	2007	Complexity Leadership Theory (Uhl-Bien, Marion, and McKelvey)
56	2008	Wicked Problems and Clumsy Solutions (Grint et al)
57	2008	Neuroleadership (Ringleb and Rock)
58	2010	Ethical Leadership (Mihelic, Lipicnik, and Tekavcic)
59	2012	Leadership Challenge Model (Kouzes and Posner)
60	2012	Mission Command (reinterpreted, US Army)
61	2015	Systems Leadership Theory (Senge, Hamilton, Kania)

While the construction of this table proved a fascinating exercise, it did not necessarily advance the primary area of interest – leadership in extreme contexts. As a result, the theoretical approaches, based on those leadership articles primarily associated with extreme contexts (from the perspective of leadership but in some cases, followership), were again analysed. The outcome of this exercise suggested that no single theory or group of theories solely provide the definitive leadership approach to addressing extreme contexts.

This conclusion has been supported by considerable research, as indicated below (Geier, 2016, p. 234):

There is little consensus in the literature about the most effective leadership style with respect to followers' performance in extreme contexts, dangerous contexts, or under high environmental risks, and specifically for in situ extreme events (Antonakis et al., 2003; Bass & Riggio, 2006; Hannah et al., 2009; Hollander & Offermann, 1990; Weick, 1993; Yukl & Fleet, 1982). Hannah et al.'s (2009) academic article had the goal of building a conceptual framework for studying leadership in extreme contexts, and

	Explanation
44	At any one time, leaders assume followers' roles and followers assume leadership roles
45	Use cognitive representations to interpret their surrounds and control behaviours
46	Framework helps indiv and orgs adapt and thrive in challenging environments
47	Adaptive leadership model taking account of complexity of the challenge
48	Discover, model, analyze, measure, improve, optimise, + automate bus processes
49	Distributed leadership model with different leaders depending on team tasks
50	Development path for leaders and organisations
51	Encourages openness/sharing info to make decisions while accepting follower input
52	Standardised incident management and response system. Var used in Aust and NZ
53	Enables organisation to compete in turbulence, particularly over the long term
54	Expansive view of leadership using influence beyond authority
55	Explains complex systems. 3 Lship roles - adaptive, administrative, and enabling
56	An inelegant concept for addressing complexity
57	To improve Lship effectiveness, taking account of physiology of the mind and brain
58	Leadership guided by moral values or universally accepted principles
59	Leaders to behave the way they encourage others to. 5 tested leadership practices
60	Commanders' intent used to empower agile and adaptive Lship in a unified way
61	Organisation, a set of distinctive parts that form a complex whole

their works noted the uncertainty regarding the most effective leadership style in extreme contexts. They describe research showing in combat, for example, leaders build closer relationships with their soldiers and this behavior may be perceived as transformational leadership by followers. Contrarily, Antonakis et al. (2003) and Bass and Riggio (2006) stated that in situations where safety is of paramount importance and the presence of high environmental risks exist, active management by exception (i.e., transactional leadership) might be required. There are thus countering accounts in the literature as to the relative effectiveness of leadership styles in extreme events.

All this begs the question of the value of a categorisation/rules-based approach to leadership, as is the propensity of western culture. Table 20 highlights sixty-one versions of the broader leadership spectrum, and this represents only a fraction of leadership material publicly available. At last count (July 2020), there were over 60,000 entries when searching for leadership books on Amazon.com. Consider Moses, Caesar, Boadicea, Henry VIII, the Duke of Wellington, Nelson, Ulysses Grant, Stalin, Mother Teresa, Benjamin Franklin, Jack Welch, Al

(Chainsaw) Dunlap, Jacinda Ardern, and Donald Trump. They are/were all different leaders, with distinctive styles, sometimes living in different eras, facing different contexts, with varying sets of followers with whom they had different relationships, and they achieved different results. Can a particular leadership categorisation be of relevance in all these sets of circumstances? Can a leadership theory that does not cater for dynamism be of relevance in extreme contexts, characterised as volatile, uncertain, complex, and ambiguous (terms as cited in Alkhalidi, Austin, Cura, Dantzer, Holland, Maples, Quarrelles, et al., 2017; Alkhalidi, Austin, Cura, Dantzer, Holland, Maples, Weinkle, et al., 2017)?

A simple search through history reveals numerous leaders during crises who failed to adjust to meet the needs of more stable times and vice versa; others in business failed to fulfil their potential once promoted past their level of competence (Pendleton & Furnham, 2016). Grint (2010, p. 3) summed this up by saying: “Leadership does seem to be defined differently and, even if there are some similarities, the complexities undermine most attempts to explain why the differences exist.”

Evolution of Leadership Thought

The approaches used to articulate the theories have often depended on the frame of reference used to create the categories themselves. Grint (2010, pp. 46-48) illustrates this by constructing several different frameworks to better understand how leadership theory/concepts have evolved, including:

- a. a model which examines the juxtaposition of centralised and decentralised approaches.

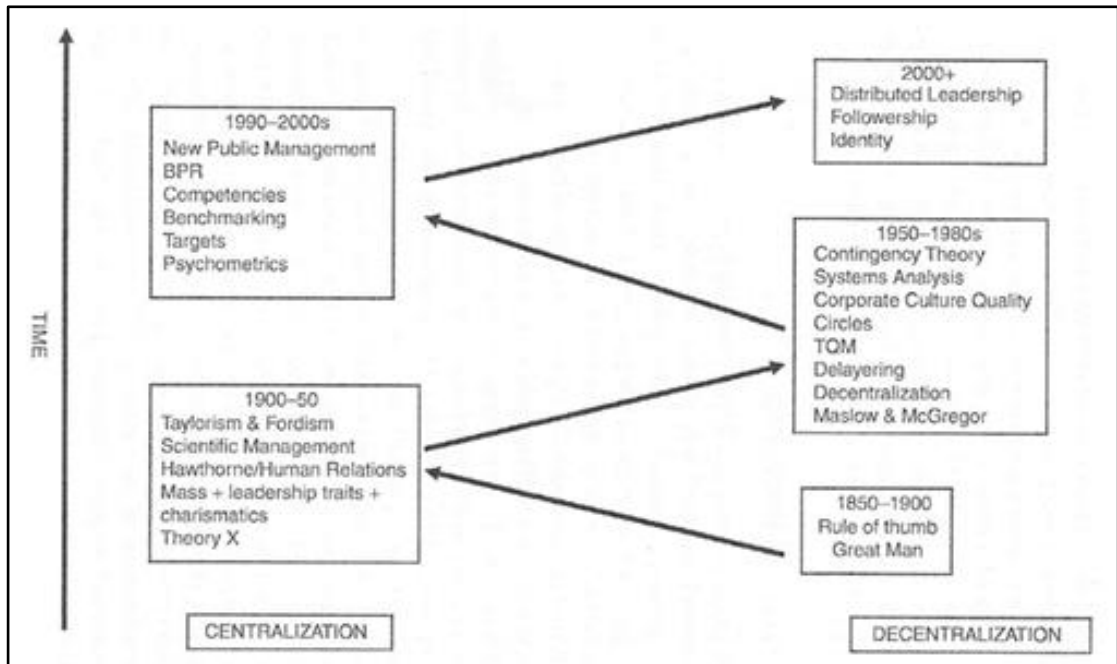


Figure 27 Binary Model A: centralisation – decentralisation

b. One which considers a science versus culture approach to theory development.

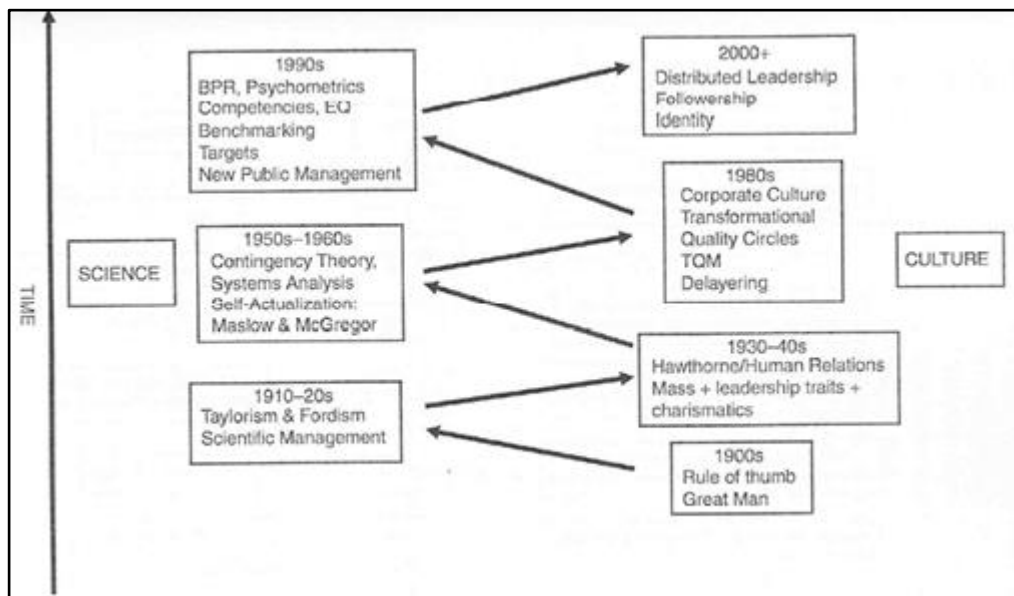


Figure 28 Binary language Model B: Science versus Culture

These models are consistent with the western desire for rules and categorisation but without regard for broader context. This aspect, however, is partially achieved by Grint slicing the

theoretical spectrum against the prevailing intellectual, cultural, and political climate, as follows:

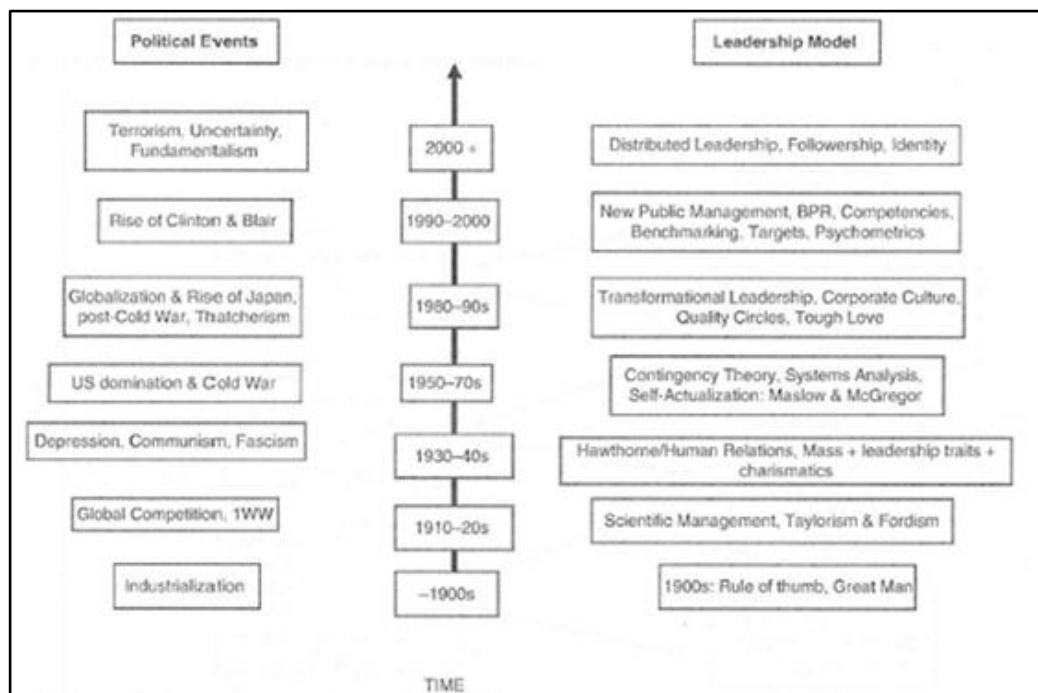


Figure 29 Political Zeitgeist

If, as the literature suggests, there is no universal approach to categorising leadership in extreme contexts, then perhaps the western approach of categorisation and rules is inadequate for the task, and a fresh approach should be considered. This conclusion is supported by Ladkin (2010). She notes that western leadership scholarship is dominated by positivist approaches designed to identify categories (traits and characteristics). These are then a precursor to assessment via psychometric or ideographic means. Grint (2010, p. 49) similarly added weight to this when summarising the evolution of leadership categorisation on the preceding pages by stating:

Finally, it might well be that there is no pattern at all, just an accumulation of historical detritus strewn around by academics and consultants hoping, at most, to make sense of a senseless shape or, at least, to make a living from constructing patterns to sell. It

may be that the history of leadership is just one damned thing after another, but it could be worse: it could be the same damn thing over and over again. Let us at least try to prevent the latter.

As a result, it is necessary to examine the DNA of the various ways people exercise authority (both theory and practice), consider what other cultures have to offer, and reimagine a more comprehensive leadership model that caters to the multiplicity of factors present during extreme contexts. By taking this alternative approach, we may thus avoid the danger of reducing leadership to the status of a cake recipe; produce all the ingredients, and you have a sure-fire way of baking a successful cake for all purposes and under all circumstances.

Deconstructing Leadership

Taking the basic concept in Figure 3 The Executive's Trinity on page 21, Bungay (2011) drew on a couple of thousand years of practice by the military, the sector with an established pedigree of operating in extreme contexts. Rather than indulge in the perennial debate on the difference between management and leadership (Zaleznik, 2004), Bungay stated that the military had long since concluded that elements of all three, leadership, management, and command, were necessary to conduct operations. Drawing, also, on the concepts contained in action-centred leadership (Adair, 1980), Bungay created a generic model (comprising sub-elements for all three components of the trinity), as follows:

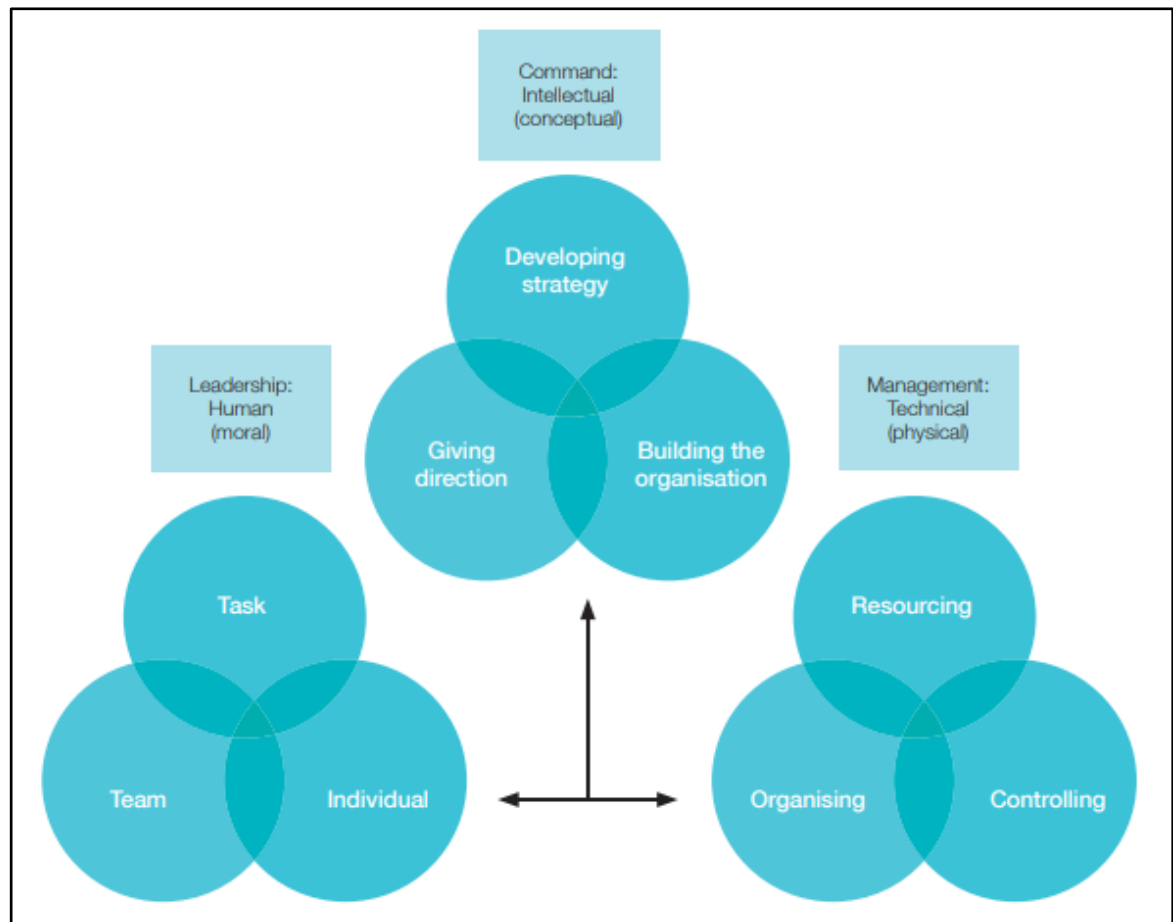


Figure 30 Elements of the Trinity
(Bungay, 2011, p. 36)

Bungay's model highlights the complementary nature of the sub-elements and helps reinforce the notion that for completeness, varying degrees of all three elements of the trinity, working in harmony, are required to succeed. This conclusion was confirmed via the research interviews, albeit it was not considered necessary that the same person conducts all three.

Bungay argued that the three elements focused on complementary aspects of the same intent in his model and explanatory notes. In the case of command, this was conceptual and required intellectual skills; leadership was an activity that is both moral and emotional and required human skills; and management, more physical, requiring technical skills. This conclusion, however, appeared a little esoteric for a common undertaking practised by many. A more practical view derived from both theory and practice is that command is exercised through

structure and strategy, leadership through relationships, and management through systems and processes (see Table 21 on page 153).

He also stated that while the model had been developed from military practice, it was equally applicable to other organisations (albeit they either didn't realise this or refused to recognise it; such is the unpopularity of the term command in the modern lexicon). This concept of command being generic is supported by previous scholarship, albeit using the term "Headship," a term coined by Holloman (as cited in Bass & Bass, 2008). Of note, all three of these means for exercising authority featured in the interviews conducted with those who had experienced extreme contexts (many of whom had no military background), along with one other: governance. However, before considering the research conducted to support this thesis, it is necessary to have a more detailed understanding of the terms themselves.

Governance

The term governance has gained increased prominence since the 1980s. It is a general term referring to the process(es) associated with governing via rules, convention, and power, for governments, organisations, social or territorial groups, networks, or sectors. The term emerged as the government retreated from providing service through bureaucratic institutions to procuring services through devolution and partnership. The resulting networks/organisations then required oversight of their purpose, culture, values, and practice (Bevir, 2012). A feature of new governance is that it sometimes cuts across traditional jurisdictions (e.g., UN bodies or private-public partnerships - PPPs). This situation has seen increased numbers of participants (e.g., Parents on school boards and advocacy groups in the community, to mention a few).

Extreme contexts involve the engagement of multiple entities (both numbers and types - see Figure 20 Systems Approach "as is" model), from central and local government, through business and sector institutions, to community groups. In addition to the established

hierarchies associated with operational agencies/organisations (Police, Fire and Emergency, emergency management, business), those governance bodies identified also play a key role. Some of these are standing bodies (central government, local government councils, company boards). Others are ad hoc (e.g., social groups formed in response to emerging issues, and governmental cross-sector working groups that come together in response to the situation itself) (Interviewee 1 - Controller, personal communication, September 30, 2019).

To overcome any potential for fragmentation and, therefore, weakness under the arrangements described above, governments have indulged in meta-governance, in essence, indirect governance through issuing policy instruments that harness and channel the relatively autonomous participants (Bevir, 2012). This practice promotes the role of networks rather than exercising authority through its hierarchical agencies. The state, therefore, seeks to govern the governance. New Zealand's emergency management regime, established through the Civil Defence Emergency Management (CDEM) Act 2002, does this by establishing regional-based CDEM Groups (comprising representatives from local councils, Police, Fire, and District Health Boards), directing and monitoring local activities.

Public sector governance comes under the purview of the Auditor General (Office of the Auditor General, 2002). Good governance in a more generic manner is fostered by practitioner-led organisations, in the case of New Zealand, the Institute of Directors. In their publication (Arcus, 2012, p. 5), "The Four Pillars of Governance Best Practice" have been established as:

- a. Determining purpose – leading the development of the entity's purpose goals and strategy.
- b. An effective governance culture – holding themselves to account through a high-performance culture of personal engagement.

- c. Holding to account – oversight of the organisation’s executive against those criteria established in the first pillar.
- d. Effective compliance ensures solvency, managing risk, and compliance against the multitude of relevant regulatory standards.

Owing to the importance of governance, as a means of exercising authority, this has been added to the Bungay (2011) model to form a new authority pyramid (in Figure 33 Pyramid of Exercising Authority and Table 21). Of the other three components identified by Bungay, management, command, and leadership; a more in-depth discussion is as follows:

Management

Hendry (2013) summarises the term management in a mere 138 pages, commencing with its Latin origins, handling and controlling horses, through to its adoption as a means of describing those functions generating efficiency within a business or organisation. While there are overlaps with the term leadership, the functions focus on different outcomes. “Management is about coping with complexity. . . . Leadership, by contrast, is about coping with change” (Kotter, 1990, p. 104). “Leaders are people who do the right thing; managers are people who do things right”(Bennis & Nanus, 1985, p. 21). In Bungay’s trinity (2011), management is how organisations follow the direction either provided (via command) or mutually agreed (through leadership). “Managing means understanding objectives, solving problems, and creating processes so that others can be organised efficiently” (Bungay, 2011, p. 36).

As previously stated, Grint (2008) takes this a step further by describing management as the application of science to solve certain or tame problems (Rittel & Webber, 1973); those reoccurring issues (whether simple or complicated) which are unilinear.

Command (and Control)

In modern leadership parlance, the term command conjures up images of military-style command and control. In the Leadership in Crisis Development Programme, produced for the

(no longer functioning) Australian Emergency Management Institute, course documentation stated that “a legislated command role does not provide the intangible elements of leadership or necessarily facilitate an adaptable and flexible approach to a non-routine situation” (as cited in Owen, Scott, Adams, & Parsons, 2015). The term is perceived as synonymous with centralised decision-making and hierarchy. “At its worst, hierarchy presumes all the answers are at the top, and that the old ways are best” (Adams, 2017, p. 5). But is this a failure of command, are there merely some bad commanders, or have the authors misunderstood the concept?

According to the online etymology dictionary⁴, the term command has its origins in the French and Latin languages and, depending on the context, can mean: to direct with authority, to entrust or commit, to have within the range of influence (have a view of or overlook), or simply proficiency (of a skill or situation). Its modern doctrinal origins come from the 19th century Prussian Army (Grint, 2005). Having been well beaten by Napoleon in 1806, the Prussians learned their lessons and set about establishing and codifying a new system, incorporating span of control, a concentration of force, the means of seizing the initiative, along with the style of leadership that integrates these critical components. Called *Auftragstaktiker*, this was unleashed during the Franco-Prussian War of 1870/1 to devastating effect under the leadership of Helmuth von Moltke (the elder). The *Auftragstaktiker* philosophy has since been adopted (in various forms) by western militaries and renamed Mission Command (Dive, 2016).

To adequately explain the concepts associated with command and control is challenging. The Australian Defence Force Command doctrine (2009) is 156 pages long. By contrast, the New Zealand military equivalent (New Zealand Defence Force, 2016) is summarised in a mere 100 pages, and the New Zealand civil equivalent, the Coordinated Incident Management System

⁴ While it is unusual to use dictionary definitions in scholarship, a central theme in this thesis is the viewing of concepts through the eyes of the people being led. These people are more likely to understand terms from standard definitions rather than those contained in scholarship material.

manual (2019), is 118 pages in length. Accordingly, a summary of the terms command, control, mission command, and incident command systems is provided.

Definitions

Command

One of the challenges of critically examining the term command is the different views on its meaning, what it encompasses, how it is exercised, and by whom. The Australian Defence Force (2009, pp. 1-2) defines the term as:

The authority that a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of organising, directing, coordinating and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale and discipline of assigned personnel.

The New Zealand Defence Force (2016, p. 2), which cites the reference above, has a similar definition with a slightly different emphasis:

Command is the legal authority given to an individual to direct, coordinate, or control armed forces. It is the process of a commander imposing their will and intentions on subordinates to achieve assigned objectives. Command encompasses the authority and responsibility for deploying and assigning forces to fulfil their missions. Decision-making is a prime manifestation of command, as making major decisions is a commander's key duty.

In a civil context (Department of the Prime Minister and Cabinet, 2019, p. 14), the definition is much narrower, being:

“The authority within a team, unit or organisation and includes the internal ownership, administrative responsibility and detailed supervision of personnel, tasks and resources. Command cannot be exercised across teams, units or organisations unless specifically agreed.”

Of the other agencies within New Zealand that (overtly confirm they) utilise command as a means of exercising authority, Fire and Emergency New Zealand (FENZ) is in the process of redefining the term as “the legitimate authority, whether by rank, role or assignment to exercise direction of people and resources” (D. Stackhouse, personal communication, 23 April 2020). FENZ distinguishes this from leadership (influencing, motivating and empowering people to achieve the organisation’s purpose) and management (the responsibility for planning, organising, and coordinating people and resources to meet organisational objectives). Currently, however, their manual states, that command and control “refers specifically to the systems established within the larger picture of incident management that allow the selected strategy, tactics and associated operational taskings to be carried out effectively” (Fire and Emergency New Zealand, 2013, p. 1).

Police define the term as:

The authority that a Commander in the New Zealand Police lawfully exercises over assigned staff by virtue of rank or assignment. Command includes the authority and accountability for effectively using available resources and for planning, organising, directing, coordinating and controlling Police resources to achieve the accomplishment of assigned tasks. Command also includes responsibility for the welfare, morale and discipline of assigned staff (New Zealand Police, 2020, p. 8)

An analysis of the first two definitions and, to a lesser extent, the others infers the following key attributes:

- a. Accountability. Authority conferred as part of a process implies accountability to some degree to a governance institution(s), and ultimately, the public; and,

- b. Responsibility. With authority comes responsibility; for mission accomplishment, task functions (the NZ document gives particular emphasis to decision-making), resources, and people (with the Australian document being more explicit; for their health, welfare, morale, and discipline).

For the military, this last factor infers a higher responsibility for people than exists under normal employment conditions where there is a duty of care for:

- a. health and safety ("Health and Safety at Work Act, No.70," 2015).
- b. assistance for dealing with the effects of family violence ("Employment Relations Act, No. 24.," 2000).

Australian legislation has similar health and safety requirements ("Work Health and Safety Act, No. 137," 2011).

By synthesising the components identified above into a single broad definition/scope, command comprises:

- a. Conferred authority.
- b. Responsibility for the organisation (including assigned organisations, assets, and materiel, along with a higher level of responsibility for people concerned).
- c. Development and implementation of the strategy necessary to conduct operations (using the assets assigned to complete assigned missions).
- d. Providing direction (including decision-making).

If, as Bungay (2011) maintains, the concept of command is not specific to military or military-esque organisations, we should expect to find an equivalence of those elements (graphically displayed on page 134) when examining concept/policy documents relating to other organisations. Naturally, this task was a little more challenging as most (non-military)

organisations appear able to conduct business without the need for detailed doctrinal statements. Challenging but not impossible.

In 2002, following a high turnover of Local Government Chief Executives, the Auditor General (2002) published some guidelines outlining the relationship between a local council and its Chief Executive. It summarised the Chief Executive role as comprising:

- a. Conferred authority. This process occurs through several pieces of legislation (including the Local Government Act 2002 and Employment Relations Act 2000), plus those delegations assigned by a council.
- b. Responsibility for staff, standards, effective and efficient economic management, and planning for the organisation.
- c. Shared responsibility (with elected members) for policy development consistent with strategic direction.
- d. Providing direction on achievement of agreed key result areas.
- e. Advising council plus several other tasks.

Similarly, a search on the role of Chief Executive Officer (Australian Institute of Company Directors, 2016) summarises the role as:

- a. Conferred authority either through legislation or as delegated by the board.
- b. Management of routine operations of the organisation, its people, and resources.
- c. Implementing strategy approved by the board.
- d. Providing strong and clear leadership to the organisation.

The similarities exist, even though the term (command) may be popularly considered a product of a by-gone era or relevant exclusively within military-style organisations. While the role has a leadership and management element, the term nonetheless stands as a discrete means of exercising authority across a broad spectrum of organisations. Bungay (2011) recognised this, substituting the term “direction” for command (where necessary), as a more palatable

expression, in a similar manner to Holloman (1968), who used the term headship. Given the corroboration (Australian Institute of Company Directors, 2016; Office of the Auditor General, 2002) outlined previously, a more appropriate term might be “executive”, consistent with the nature and title of the role.

Of note, in their research into Bank Managers, Mulder, de Jong, Koppelaar, and Vehage (1986) found that those in leadership positions have a propensity to use their power (through coercive and legitimate means based on a formal hierarchy) more often during times of crises than during business-as-usual situations.

Control

As distinct from command, the term control, which is seen as a characteristic attribute of command, is defined by the New Zealand Defence Force (2016, p. 2) as:

. . . to regulate forces and functions to execute the commander’s intent. Control of forces and functions helps commanders and staff define requirements, allocate forces, and integrate efforts. Control allows commanders freedom to operate, delegate authority, and place themselves in the best position to observe, assess, and lead. Ultimately, it provides commanders a means to effectively and efficiently employ joint forces to achieve objectives and attain the end-state.

Its civil equivalent (Department of the Prime Minister and Cabinet, 2019, p. 14) is quite similar, albeit with some changes in emphasis:

Control is the authority to set objectives and direct tasks across teams, units and organisations within their capability and capacity. This may include control over another team, unit or organisation’s resources but does not include interference with that team, unit or organisation’s command authority or how its tasks are conducted. Control authority is established through legislation, by formal delegation or by mutual agreement.

Graphically, the difference between the terms command and control is explained as follows:

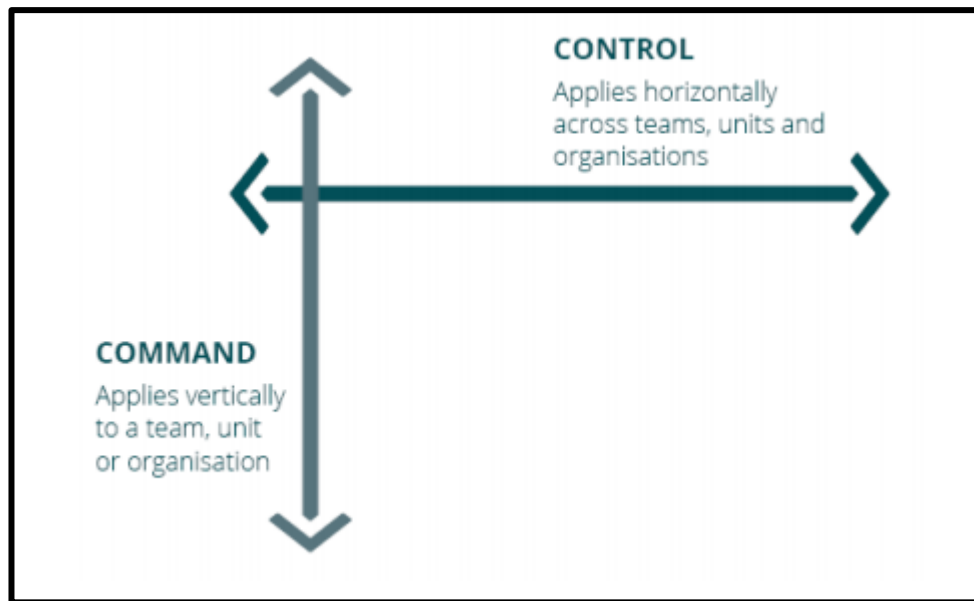


Figure 31 Command and Control
(Department of the Prime Minister and Cabinet, 2019, p. 15)

Mission Command

As previously introduced in the paragraph commencing page 138, Mission Command was a key component of the Prussian command and control renaissance. Mission Command comprises delegation of a mission, an understanding of the Commander's intent and context, the assignment of guiding parameters within which they must operate (thereby permitting freedom to manoeuvre within those boundaries), the building and deployment of extraordinarily cohesive teams, and the provision of the resource necessary to succeed. It is the assignment of the what and why but not the how. This definition allows those accountable for the mission/task(s) to exercise the leadership necessary to best deal with the challenges and uncertainties presented in dynamic, volatile, and complex environments, often characterised by ambiguity. It promotes freedom and speed of action, initiative, delegated authority, timely decision-making at the appropriate level, personal accountability, and trust between leader and those led (Corbett, 2007).

Mission Command is therefore a powerful approach to achieving shared outcomes in an uncertain dynamic environment. It empowers, equips, and appropriately resources individuals and teams whilst allowing them the freedom to find their path. There may well be some poor commanders in the military, but this should not detract from the elegance and intent of the original concept.

Accordingly, the criticism of command by Adams (2017), as being characterised by elitism and power and with an inference that it is devoid of inspiration, collaboration, initiative, and the right institutional culture, appears very much at odds with the intent of the Prussian designers. This situation is corroborated by the performance of elite military units (e.g., SEALs) frequently assessed by scholars as setting the benchmark for successful mission completion, leadership effectiveness, and group cohesion (Fraher, Branicki, & Grint, 2017; Fraher & Grint, 2018; Keller & Matusitz, 2015). Many modern western military forces practice mission command. For example, the six principles of mission command as utilised by the US Army (US Army, 2019) include:

- a. Build cohesive teams through mutual trust.
- b. Create shared understanding.
- c. Provide a clear commander's intent.
- d. Exercise disciplined initiative.
- e. Use mission orders.
- f. Accept prudent risk.

In the Royal Navy (Dive, 2016), this is expanded into eight principles, being:

- a. Unity of effort.
- b. Decentralisation.
- c. Trust.
- d. Delegation, not abdication.

- e. Mutual understanding.
- f. Timely and effective decision-making.
- g. Responsibility for Decision-making.
- h. Communications.

Given the demands of leadership during extreme contexts, it would be difficult to argue that Mission Command is not an effective means of addressing the operational challenges within extreme contexts or even a general approach to organisational problem-solving in a business-as-usual context. What should be noted is that the approach is partially at odds with a typical rules-based approach favoured by western culture in that it focuses more on intent and principle than process and rules. One of the most interesting aspects of the Covid 19 alert level 4 shutdown was observing elements of the public adjust from a rules-based society to one based on values and intent (S. Wilson, 2020). Given the speed of design and implementation, it was impossible to replicate the full suite of standard societal rules to cater to the new order (Wiles, 2020). To a degree, the public was given a basic set of rules, and the rest was left to interpolation based on government intent. This situation was not an easy transition for some.

Staff Systems

Another critical component of command is the (continental) staff system. The Austrians developed this concept in the 18th century, and the Prussians later adopted it during their 19th-century military renaissance (Irvine, 1938). It has since been adopted/adapted (in a modified form) for use by western militaries. This system, previously introduced on page 70 is designed to organise the staff effort necessary to inform the Commander, and sees the administrative effort divided into a series of integrated functions.

The staff system is a staple in most modern (western) militaries and was used by the New Zealand Defence Force (in a modified form) to plan the insertion and maintenance of

operational forces in theatres like Timor-Leste (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020).

In a civil context, the staff system equivalent is the Coordinated Incident Management System - CIMS (Department of the Prime Minister and Cabinet, 2019). As previously stated on page 69, CIMS is a universal management system used by government departments and response agencies within New Zealand. Based on a design initially adopted by NATO militaries in 1947 and adapted for use in a civil environment by the Phoenix Fire Department in 1968 (Table 20 Evolution of Theory on page 126), variations of the concept are used by many western nations e.g., AIINS in Australia and NIMS in the United States of America (Interviewee 1 - Controller, personal communication, September 30, 2019).

For the multi-agency Covid 19 regional response effort in Wellington, the functions were arranged as follows. The diagram shows two primary streams of activity (Civil Defence Emergency Management and Health), with direct linkages to the respective national level organisations (National Crisis Management Centre and the National Health Crisis Centre).

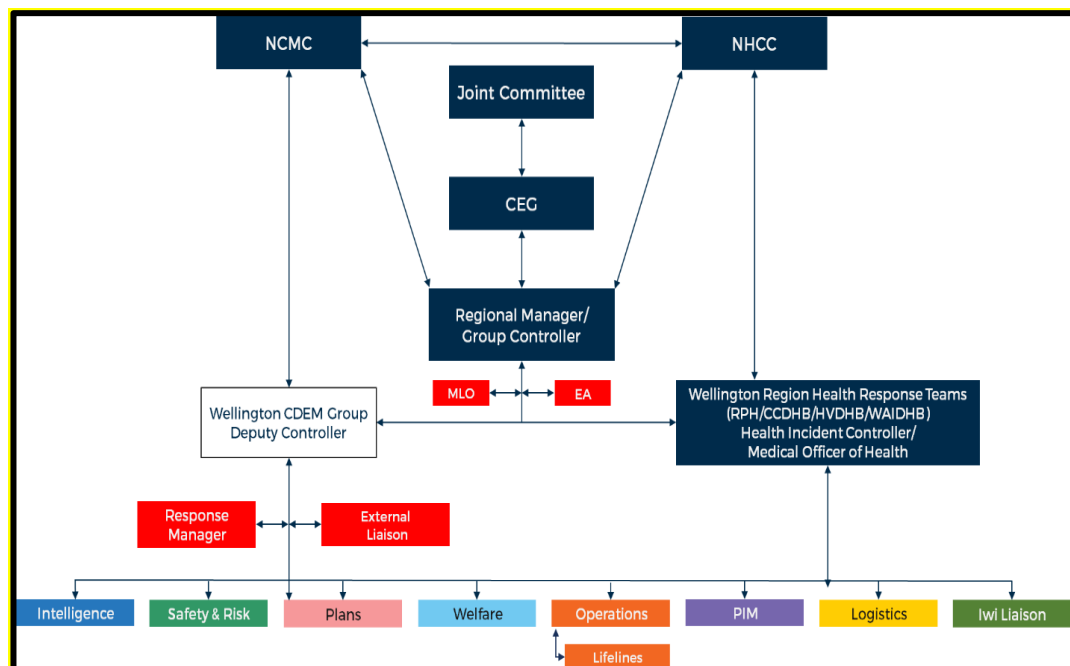


Figure 32 Regional control structure for Covid
(As used by the Wellington CDEM Group during Covid-19 response operations 2020)

While the term command and, to a degree, control, implies a degree of proficiency, it is the management system surrounding the commander/controller that enables decisions to be planned, informed, integrated, and flexible, providing for unity of effort as initially intended by the Austrians and Prussians (Irvine, 1938). A coordinated management system like this, when used properly, breaks down knowledge and action silos and enhances the command/control functions' ability to lead in volatile, uncertain, complex, and ambiguous environments.

Command and Control Limitations

The one essential ingredient to exercising command or control is the assignment of assets and resources conferred as part of the authority process. This action is meticulously formalised in the military to remove any uncertainties surrounding the composition and employment of those units assigned, either under operation command or operational control (New Zealand Defence Force, 2016). This situation does not occur with the same certainty in a civil environment. While the intent is unified control (Department of the Prime Minister and Cabinet, 2019), the authority as conferred in the Act ("Civil Defence Emergency Management Act, No 33," 2002) and accompanying management plan ("National Civil Defence Emergency Management Plan," 2015) is short on specifics. Accordingly, there is a broad spectrum of levels of commitment to the controller. As previously explained in Chapter four, this support ranges from FENZ (the most responsive organisation) to Health, where no specific form of commitment is guaranteed.

FENZ	NZDF	Police	Health
Located in EOC	Provides Liaison	Provides liaison when requested	
Responsible to Controller	Advises controller of potential support available	Participates in development of plans	
Advises Controller	Can assign units	Exchanges situation reports	
Supports Controller			
Maintains Communication			

Table 15 Multi-agency commitment to CDEM (repeated)

Regrettably, even accounting for limitations in commitment within the CDEM Management Plan, the intent is not always matched by practice. During Covid 19 response operations, CDEM and Health (certainly at the regional level) operated as two distinct silos, notwithstanding the appointment of liaison staff (Interviewee 17 – EOC staff member, personal communication, July 31, 2020). During both Kaikōura and the Christchurch earthquakes, there were instances of agencies unilaterally withdrawing (or attempting to withdraw), leaving the main response effort under the direction of the controller exposed (Interviewee 1 - Controller, personal communication, September 30, 2019; Interviewee 9 – Controller, personal communication, March 8, 2020).

Given the proliferation of organisations and networks arising from post-1980s structural reforms (see explanation on page 135) and associated cultural impediments identified during the research (page 109), success (on some occasions) during response operations would appear to have occurred despite many of the features of the response structures, not necessary because of them.

Leadership

The term leadership, used in the thesis title, is intended to be viewed in its most comprehensive form, a position or action (of whatever means) that causes others to follow, whether they be a group of people or an organisation.

Separate from this generic description is the more specific term, leadership, as distinguishable from governance, management, or command. As distinct from command, which is granted to or conferred on someone, leadership is the act of influencing others to go in a particular direction and achieve agreed tasks. “Leaders have to balance their attention between defining and achieving the specific task, building and maintaining the team, and developing the individuals within it” (Bungay, 2011, pp. 36-37). Grint (2008, p. 12) describes management and leadership as “two forms of authority rooted in the distinction between certainty and uncertainty”.

Other leadership related factors

Networks

As previously indicated in the section on governance on page 135 and the findings of Chapter four, most organisations do not form part of an established hierarchy but are part of a more comprehensive network. Networks are different from hierarchies in that they are generally created through more informal relationships. In the absence of any formal document (e.g., in an alliance or shaped by a meta-governance policy instrument, e.g., the National Civil Defence Emergency Management Plan), and even with these documents, these networks are founded on trust and respect. This situation is both established and reinforced through repeated interactions. Networks provide an alternative to regular chain of command hierarchies (Bevir, 2012). Because they are more informal, they can often be more flexible and adaptable and allow greater freedom to innovate. They may involve symbiotic relationships, but as indicated in Figure 20 on page 109, they can comprise a diversity of cultures, values, and rules of

engagement. Problems, therefore, can occur where one player behaves unilaterally for whatever reason, i.e., the rules of a hierarchy do not bind them.

The challenge also occurs for those leading a network or coalition with no mandated authority (in the form of legislation, power granted by a governance body, or where external units are assigned under unified control). In this case, the command option is inappropriate, and leadership must use established relationships to achieve influence.

Much has been written on the different styles representing the stereotypes characterising leadership and command (Adams, 2017; Grint, 2008; Sanders & Grint, 2018). This situation, however, need not be the case.

“My personal leadership delivery style was influenced by the demands of the context rather than whether I was dealing with either service people or civilians” (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020).

Indeed, being directive is as much a delivery style for leaders as for commanders, as shown in Hersey et al. (2013).

Meta-leadership

Meta-leadership is the term coined by Harvard University’s National Preparedness Leadership Initiative (National Preparedness Leadership Initiative, 2021a) to describe multi-dimensional leadership in a multi-layered/agency cross-sector setting. Their model focuses on the many dimensions necessary to achieving a successful outcome, comprising: Self-leadership, leading up and down and across the organisation, managing the situation, and importantly, leading beyond the organisation. Meta-leadership is a strong concept for employment in most civil extreme contexts, where a command environment does not exist or is inappropriate. Even within a command environment, meta-leadership provides powerful tools and concepts for leading people, synthesising disparate activity, and managing the leader/public interface.

Assembling the pyramid

Assembling all four identified means of exercising authority (governance, command, leadership, and management) into a model is the key to understanding how they complement each other. The model also helps determine the appropriate means of engagement for a particular undertaking. Taking the model produced by Bungay (2011) on page 134 as a starting point and enhancing this according to definition and practice outlined above would see a model as depicted on the next page.

This proposition adds a governance layer to Bungay's trinity (in blue), to determine the overall purpose and direction within which command/leadership/management trinity functions operate. The argument assumes the model lies within a democratic environment; anything autocratic could skip governance and utilise the command function to set the purpose.

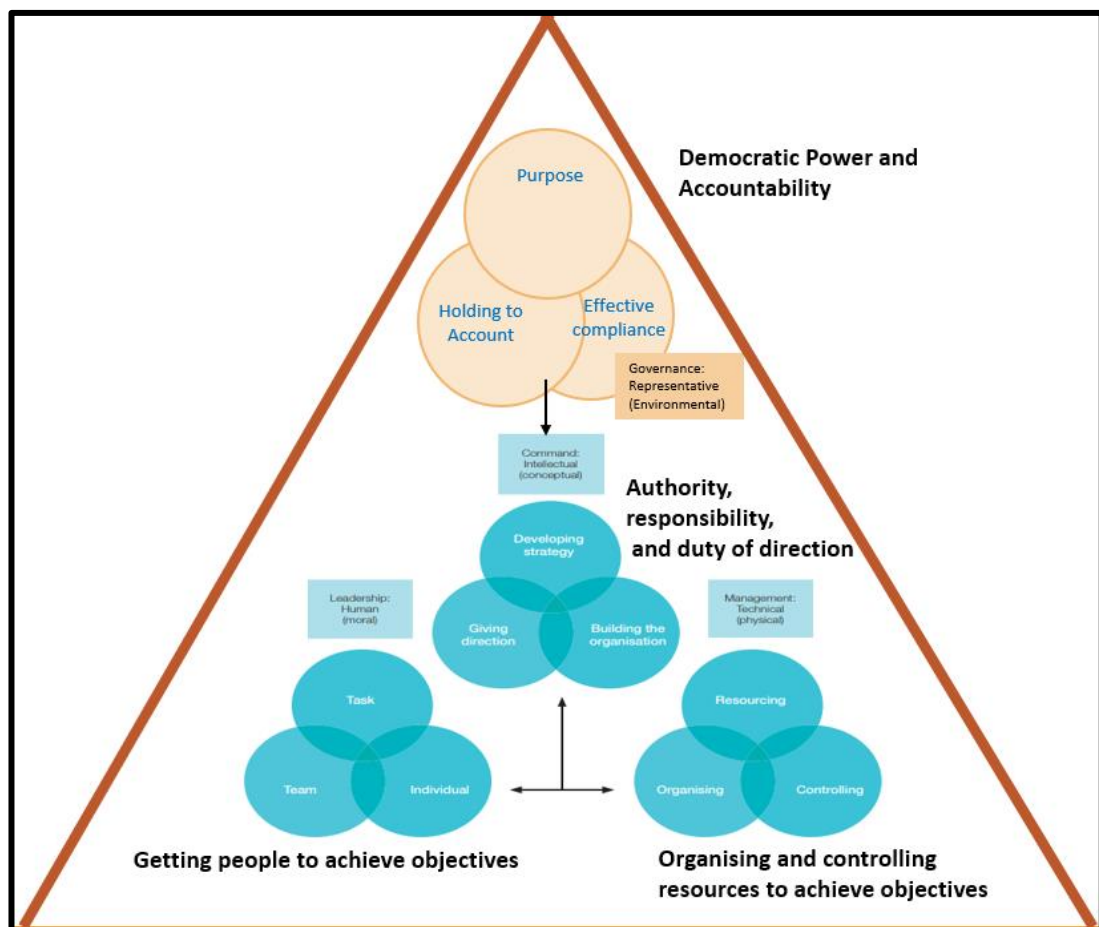


Figure 33 Pyramid of Exercising Authority

Expanding the model above, taking account of both relevant scholarship and input from interviews, a table can be produced which outlines differences in approach, various strengths offered, and applicability in certain circumstances as follows:

Means	Definition	Components	Focus	Led by	Through	Delivering
Governance	Democratic power and accountability	<ul style="list-style-type: none"> Defining purpose Holding to account Effective compliance 	Purpose	Accountability	Strategy and Holding to account	Results/ compliance
Command / Executive	Authority, responsibility, and duty of direction	<ul style="list-style-type: none"> Building the organisation Developing strategy Giving direction 	Organisation	Authority	Structure and Strategy	Mission
Leadership	Getting people to achieve objectives	<ul style="list-style-type: none"> Building and maintaining teams Defining and achieving tasks Developing individuals 	People	Vision	Relationships	Outcomes
Management	Organising and controlling resources to achieve objectives	<ul style="list-style-type: none"> Marshalling resources Organising and controlling resources Deploying assets 	Systems	Mission	Processes	Efficiency

Table 21 Leadership Capstan - Authority Layer

The pyramid in practice

During the interviews providing data for this thesis, it became apparent early on that people's understanding of authority terms was superficial and divergent, informed by their career experience and prejudice, rather than scholarship or a common lexicon, particularly when it came to the difference between leadership and command.

“Command, I think is a uniquely military construct. . . . it is a very directive form of leadership.” When asked if Police can exercise command, “not in the sense that I understand the word. I imagine they think they do within the Police structure” (Interviewee 2 - ex-Military Commander, personal communication, October 10, 2019).

“I have a personal view that you apply the style of leadership you need at the time that you need it. And Command for me in Defence is the legal authority to do things. And so, it is a really simple thing, and you can do things to people if they don't” (Interviewee 3 - ex-Senior NZDF Officer, personal communication, October 31, 2019).

“So, command, so giving a command is about giving a direction. But leadership is about - it is about much more than just even command. It's about vision. It's about pathways. It's about motivation. It's about inspiring. With command, it is more about direction” (Interviewee 5 - Australian Emergency Manager, personal communication, November 18, 2019).

Well, command it is top-down. So, you tell the subordinate, right, you are going to do that. And they'll do that. Leadership is - is more on a horizontal level. It's providing faith in that person, respect for that person. I mean, if you take in the military, command, man, some of those Sergeant Majors or whatever, you look at them, they hate you, but they are in command. They don't take no for an answer. You do what they say. But leadership, on the other hand, is a more wider spectrum. It provides that respect. It provides the professionalism. It provides the belief that that person knows what he's doing. So, it's a wider, on a wider collaborative platform where leader operates, and you know, he's a professional leader, he's got a spectrum of abilities. So, it can change from this to that very quickly because he's got that broad spectrum of management and leading. So, people like to follow a leader, but they don't always like following a commander (Interviewee 4 - ex Soldier in a conflict zone, personal communication, November 15, 2019).

It was difficult to see the value-added from different experiential and non-authoritative opinions from the first few interviews. What was required was a set of standard definitions and not necessarily attributed (linked) to a particular form of exercising authority to avoid any possibility of people shaping their answers to suit their narrative.

Accordingly, the following guide was used to ask those interviewed for their mode of operation in their roles during extreme contexts. The modes could be conducted concurrently, or consecutively, and in some cases, functions could be delegated to others. Those interviewed who were not operational leaders were asked for the mode(s) where they expected their leaders to operate. Thus, people were being asked what they did rather than allowing them

the possibility of bias, based on their understanding of the different means by which they could exercise authority.

Mode of exercising authority	Mode: Standard Tasks
A	<ul style="list-style-type: none"> • Defining and achieving the task • Building and maintaining the team • Developing individuals within the team
E	<ul style="list-style-type: none"> • Developing strategic direction • Building organisational capability • Providing direction
I	<ul style="list-style-type: none"> • Marshalling resources • Organising Resources • Controlling resources
O	<ul style="list-style-type: none"> • Determining the purpose • Ensuring Compliance • Holding to account
U	<ul style="list-style-type: none"> • Setting the agenda • Assuming the authority • Having the status

Table 22 Survey template for interviews

What they didn't know was the origin and significance of the modes. Simply having four categories (representing governance, command, leadership, and management) raised the possibility of people looking beyond the tasks and choosing a recognised (preferred or ideal) means of exercising authority. As a result, an outlier was selected to increase the range of functions for consideration and mask any apparent patterns. The categories were then labelled A to U in no particular order. Category U was a fabrication, included after reading an article on Donald Trump (Ashcroft, 2016). Of the many characteristics of narcissism, three of the more innocuous were chosen, again, to avoid any obvious recognition. However, at the time, it was not expected that anyone would choose this option.

Mode	Mode: Standard Tasks	Origin of the tasks	Corresponding terms
A	<ul style="list-style-type: none"> Defining and achieving the task Building and maintaining the team Developing individuals within the team 	Tasks originally derived from action-centred leadership (Adair, 1980)	Leadership
E	<ul style="list-style-type: none"> Developing strategic direction Building organisational capability Providing direction 	Tasks adopted from the Executive's trinity (Bungay, 2011)	Command/Executive
I	<ul style="list-style-type: none"> Marshalling resources Organising Resources Controlling resources 	Tasks adopted from the Executive's trinity (Bungay, 2011)	Management
O	<ul style="list-style-type: none"> Determining the purpose Ensuring Compliance Holding to account 	Those external tasks as identified by NZIOD (Arcus, 2012)	Governance
U	<ul style="list-style-type: none"> Setting the agenda Assuming the authority Having the status 	Characteristics were taken from the dictionary	Narcissism

Table 23 Survey template background

In retrospect, the results should not have been a surprise as elements of narcissism are a common characteristic of leaders (Grijalva & Newman, 2015). Accordingly, the first person was asked to advise the category(s) that best matched their approach to doing business during a particular, extreme context. The response was:

Certainly, E (*Command/Executive*) was one of them, and about being clear how we were going to handle that crisis. We were not going to be shy, hoping it would all go away, we'd stick our head above the parapet, try and manage that and then get onto it

- definite E, and I think there is probably a bit of U (*narcissism*) – (Interviewee 6 - Council Chief Executive, personal communication, December 11, 2019).

Interestingly, when later asked where their “happy space” was in BAU, the reply was E (*command/executive*). Note: The actual category expressed is added in italics for completeness.

Originally thinking this may simply be an aberration, the question was then put to another Chief Executive who had experienced an extreme context in their role.

I did think ok, so I haven't got a particularly specific role here at times, except to make sure everything is going swimmingly, so I wasn't really; you know the controller is the key person and so they - me, I was just trying to make sure they were functioning as well as they could and so I was more off to one side making sure that, running interference, making sure the team was functioning. . . . I wasn't really providing direction because the controller was doing that sort of strategic direction stuff (Interviewee 8 - Council Chief Executive, personal communication, December 18, 2019).

When that same Chief Executive was asked where the controller would or should have been operating, the answer was” E (*command/executive*), A (*leadership*), and holding to account (*part of O, governance*).” When again asked, this time where they usually operate as CE (in BAU), the answer was, “These ones – E (*command/Executive*), I (*management*), U (*narcissism*). A bit of A (*leadership*). Kind of all of them really (*therefore including governance*), probably less of I (*management*).”

A further interviewee, who had experienced several extreme contexts in several separate and distinct roles, responded as follows:

Yeah, it changed over time. So, initially, at least, I was very much in marshalling resources and organising resources (*I, management*). . . . Now let me finish reading them. No, actually, initially, it was U (*narcissism*). . . . To do what we needed to do, we had to have authority (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

So, I wasn't there immediately after the earthquake. I was there day seven or something like that. They managed to burn themselves out - so, it was - it was very much around A (*leadership*) defining and achieving the task, building and maintaining the team, it wasn't about developing the individuals - it wasn't my lead, but it was kind of A (Interviewee 7 – ex Alternate Controller, personal communication, November 11, 2019).

We were almost everything except E (*leadership, management, governance, and narcissism*). So, we had been sent across to do a specific task; in the UN structure, it turns out that the UN at that time wasn't very good at E (*Command/Executive*). It was a real shambles, so we ended up ourselves determining the purpose and setting the agenda because there was a lack of command or what we expected to see with respect to the Commander's intent. Actually, what I have to say, there was a bit of naivety from the NZDF in appointing us there - stuff like logistics. The UN was supposed to provide all the logistics - food water, there was none of that and we had to buy our own. We had to fend for ourselves. And again, kiwis are quite good at doing that, so we managed to do that, I guess. And even our tasks while we were there hadn't been well defined, and we had to make them up as we went. That wasn't developing strategic direction, we were there to - actually that is really interesting, we had to feed hungry people, you know at the time there was mission creep, and we ended up hunting (*name given*) was the bad guy's name and we ended up in full-on

conflict. Went from peace-making missions to full-on conflict (Interviewee 7 – ex-Military Officer in a conflict zone, personal communication, November 11, 2019).

Widening the sample to increase the diversity factor continued the emerging themes:

The controller was operating in “I (*management*), O (*governance*), and U (*narcissism*).” The mayor (in the same extreme context was a combination of U (*narcissism*) first and foremost and a bit of O (*governance*) (Interviewee 21 – ex-City Mayor, personal communication, August 27, 2020)

Expanding the sample further to members of the public, the answers were:

Controller operating in I (*management*) and O (*governance*) modes; the mayor in I (*management*) mode (Interviewee 18 – Member of the public (NZ European), personal communication, August 6, 2020)

Controller operating “probably E (*command/executive*) or O (*governance*). . . . U (*narcissism*) is important. A community leader would be operating in O (*governance*), E (*command/executive*), and A (*leadership*)” (Interviewee 19 - Member of the public (Māori), personal communication, August 20, 2020).

So, I think A (*leadership*) and E (*command/executive*). I probably think that should happen even before a crisis - it is more important - defining and achieving the task and then maintaining the team so that when a crisis happens, you can trust the team to do things and then strategic direction is more crisis event and day to day and then organisational capability and providing direction. Being a good leader should have these things when reacting to an event. And then I guess I (*management*), O (*management*), U (*narcissism*) would be kind of things that would be quite important during a crisis event (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

The same person, when asked about the mayor's role, replied, U (*narcissism*) and O (*governance*) (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

Observations

From those interviewed, consistent themes emerging were:

- a. Primarily, there was a need to reconcile the narcissist tendencies identified as being conducted and perceived as necessary by most of those interviewed (the above examples were indicative of the overall general response). Examining the words used and interpolating appropriately, people appeared to be saying that it was important for key people to establish their legitimacy and credentials in the eyes of others and project a sense of ownership of the situation. These two essential concepts are explored in greater depth: credibility in Chapter seven (Leadership Capstan) and ownership in Chapter eight (Leadership Capabilities).
- b. Flexibility in approach. In many instances, all four primary ways of exercising authority were identified, sometimes conducted by the same person (the controller/commander), sometimes performed in conjunction with those around them.
- c. Progression over time. Certain functions require to be conducted in advance. An extreme context is not the time to build organisational capability, develop individuals, and suddenly build and maintain the team.
- d. The differentiation of command/executive from leadership and the applicability of command/executive as a legitimate form of exercising authority outside a military/military-esque environment. Interestingly, one person interviewed stated in a media interview early in an extreme context that leadership in his sector is "not about command and control but convene and collaborate" (Central Government Chief Executive – *department identifiers withheld to avoid explicitly identifying the person*).

When later interviewed as part of this research, he was at pains to explain that intra-sector Chief Executives had said, “we are happy if you tell us what to do, if you need to lead on this thing, we will follow” (Interviewee 26 - Controller, personal communication, October 9, 2020)

- e. A blurring of traditional roles. Normally you would associate the governance function with a board member or politician, yet leaders during extreme contexts were quite insistent that they too exercised this function. “I am involved in all of them except I (*management*) (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020). When questioned further, this person confirmed that the staff performed the management function, albeit that some of the senior direct reports also exercised A, E, O, and U (*leadership, command, governance, and narcissism*).
- f. As a rule, interviewees answered based on their understanding of what they did, and only one person looked behind the category tasks.
- To go to the U (*narcissism*)- having the status is, to me, that is a pejorative. . . . I mean, people who are leaders don't have to tell other people that they are leaders. And they don't have to present their business card and say under blah blah blah. And if they are in that space, and certainly it may work in other jurisdictions but certainly not in NZ.
- (Interviewee 28 – Deputy Chief Executive (Central Government), personal communication, October 5, 2020)
- And yet, that is precisely what it appeared the other people were saying when interviewed; that there was a need to establish credentials during extreme contexts.
- g. Lastly, the similarity between what appeared to be occurring here and those concepts contained in Contextual and Contingency Leadership models (Oc, 2018), matching leadership style to the situation.

Chapter Summary

This chapter sought to examine the DNA of leadership thought and practice to establish a standardised foundation for research conducted in this thesis. Key findings are as follows:

- While there is considerable merit in the Bungay (2011) proposition of an executive trinity, this required expanding to include governance to incorporate a broader range of authority exercised during extreme contexts.
- Regrettably, some of the more progressive leadership scholarship has lost the essence of what constitutes command. It is not simply a coercive form of leadership, but a legitimate, logical, and powerful means of exercising authority in its own right, and its applicability is equally valid across a broad range of organisations.
- The western propensity for categorising and creating rules to explain concepts appears of marginal value when considering leadership in extreme contexts. The theoretical spectrum covering leadership appears too static to cater for the dynamism present in extreme contexts; useful to know without being of significant practical help.
- Actual practice in extreme contexts tends to indicate leadership occurring as part of a suite of actions conducted by several people, sometimes across organisations, corroborating the findings of the previous chapter on systems and highlighting potential areas of conflict when mission and intent are not aligned.
- Existing scholarship (Grint, 2010; Hofstede, 1980; Nisbett, 2019) argues that context and culture (and therefore people) are crucial factors when exercising authority. Accordingly, these must be factored into any resulting leadership model. This aspect is examined in more detail in Chapters six and seven.

Chapter 6: Analysis of Case Study data

Introduction

This chapter examines the two primary case studies (the Kaikōura series of events as they impacted Wellington and the Covid 19 pandemic as it impacted New Zealand) using the typology established by Hannah et al. (2009) for examining leadership in extreme events. This typology appeared a good starting point in examining the features and challenges within extreme contexts, to better understand the complex forces at play. In addition to the two case studies, further extreme contexts were then considered to broaden the range of data analysed, albeit in lesser detail. Finally, a scenario involving the leadership of a New Zealand sporting team during a world cup was examined for comparison purposes. Sometimes it is easier to identify and grasp critical features when viewing similar concepts in a parallel sector (Freiberg & Freiberg, 1998).

The analysis was undertaken to determine its utility to break down a complex undertaking into manageable elements (in continuation of the system's analysis in Chapter four – research question one), inform the list of leadership capabilities required during extreme contexts (discussed further in Chapter eight – research question two), and identify any factors that might enhance the model.

Typology

A description of the typology was included in Chapter two on page 16. The framework was developed with input from a diversity of sources (both military and civilian), including the US Military Academy at Westpoint, New York; the Global Leadership Institute at Lincoln, Nebraska; Centre for Leadership and Strategic Thinking Seattle, Washington; and the ESSEC Business School, Cergy Pontoise, France. Its five-element typology aims to break down those factors defining a context, permitting a more detailed examination of the resulting relationship with leadership.

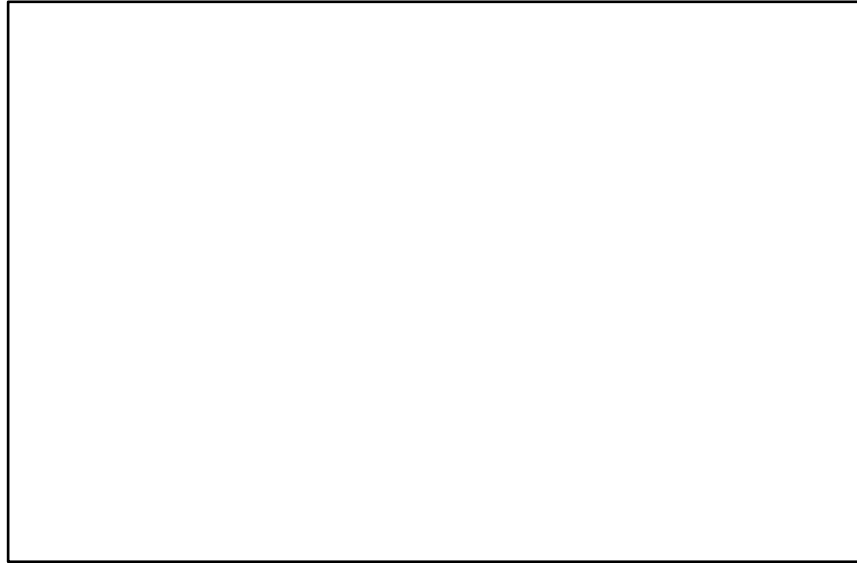


Figure 1 Typology of Extreme Contexts (repeated)
(Hannah et al., 2009, p. 899)

An example of how this framework enabled a more comprehensive understanding of a military-based scenario was provided in chapter two, part seven of Holenweger, Jager, & Kernic (2017), a collection of contributions by experienced practitioners and researchers examining various aspects of leadership in particularly challenging situations. The New Zealand scenarios (along with the sporting example) therefore presented a further opportunity to put the framework's relevance, utility, and robustness to the test, while providing a means of critically examining and comparing quite different complex case studies.

Kaikōura

Location in (and across) time

Preparation

The series of events commenced with a 7.8 (Mw) magnitude earthquake at 0002 on 14 November 2016, centred close to Culverton near Kaikōura in the South Island of New Zealand (Fleisher, 2019). This event occurred roughly six years after the first significant Christchurch earthquake (occurring in September 2010) and a little over three years after the Seddon series

(in August 2013). This latter series of earthquakes significantly impacted Wellington City, causing damage to several building facades and compromising the structural integrity of others (Interviewee 1 - Controller, personal communication, September 30, 2019).

The Wellington Region Emergency Management Office (WREMO) had increased community resilience in the years leading up to this earthquake. These initiatives included promoting preparedness enablers (including Grab and Go bags, water tanks, and the blue line tsunami initiative⁵). Considerable effort had also been invested in raising community awareness, with one person in seven registering as followers on regional CDEM social media platforms (Socialbakers, 2020; "WREMOnz," 2020). In this endeavour, WREMO had received good support from local government politicians and council staff (Interviewee 1 - Controller, personal communication, September 30, 2019). The people of Wellington were undoubtedly familiar with earthquakes, however, as time had elapsed since the most recent significant events (storm 2013, series of earthquakes 2013, and flooding 2015), community focus on preparedness had waned.

As time elapses since our last major emergency (May and June 2015), public interest in resilience-building initiatives wanes. Projects in this space need to be part of a rolling programme with constant refreshes to take account of emerging knowledge as well as utilising innovative means to empower people to take ownership of their circumstances. While overall we ran a successful NZ Shakeout campaign, interest in the majority of our TAs in fact dropped. Eight of the 16 CDEM regions throughout the country experienced a drop in participation (*WREMO Quarterly Report, 2015*)

⁵ The blue line initiative is a community developed tsunami education and mapping solution, facilitated by the Wellington Region Emergency Management Office, to enable members of the public to understand the tsunami risks in their location and where to go to seek safe ground.

In situ (Response) Phase

At the time of the earthquake (0002), Geonet (New Zealand's real-time geological monitoring system) registered the event at 6.5 Mw. This assessment was subsequently adjusted to 6.6 Mw at 0010 by Geonet, reported as 7.4 Mw by the Pacific Tsunami Warning Centre in Hawaii at 0012, and then as 6.6 Mw by the (New Zealand) National Warning System (NWS) at 0024. The registered magnitude was again adjusted to 7.4 Mw by the NWS at 0150 and eventually confirmed as 7.8 Mw on 17 November 2016, three days after the event (WREMO, 2017).

At the same time, the situation regarding a potential tsunami threat was similarly slow to unfold. Initially, it was assessed as no tsunami threat (by both the Pacific Tsunami Warning Centre at 0012 and the National Crisis Management Centre at 0040). This situation subsequently changed, and at approximately 0100, the National Crisis Management Centre issued a warning, however, no context was provided (at that stage, the only official advice had been that it was a land-based rupture). Following readings from relevant tide gauges and tables, further advice from the duty Tsunami Scientist, and a recommendation by local hazard advisors, the Wellington CDEM Group assessed the likely impact (at 0130) as no more than a metre and issued a red zone (beach and coastal estuaries only) warning accordingly (WREMO, 2017).

This situation was reviewed at 0201 when a national warning tsunami marine/land threat was received, advising the impact for the Wellington region was likely to be between one and three metres. However, notwithstanding this, the updated advice was discounted in favour of the earlier local assessment of a red zone event (no more than one metre) (Interviewee 1 - Controller, personal communication, September 30, 2019).

From a public perspective, the situation was less than ideal. The original earthquake was both long and strong, and following previous official advice, people in the vicinity of the coast should have evacuated the tsunami zones as a precautionary measure. This message then

would have been followed by advice that there was no tsunami, followed again sometime later by advice to stay away from beaches and coastal estuaries. These messages/warnings were issued by various means, including cell text alerts via the Red Cross hazard app, social media, and more traditional means (including radio and television). However, to add to the confusion, social media messaging from all the various (official and unofficial) sources was not always consistent/accurate. The national tsunami threat cancellation was not issued until 1502 that afternoon (WREMO, 2017).

On the early morning of 14 November, Wellington was also buffeted by 140 kph wind gusts. This situation, compounded by broken glass resulting from earthquake building damage, made parts of the Wellington CBD a hazard zone (Interviewee 1 - Controller, personal communication, September 30, 2019).

Later the same day, the Meteorological Service issued a heavy rain warning for the Tararua Ranges (for the period 2100 14 Nov to 1600 15 Nov). A further rain warning, this time for the Wellington area, was received at 0619 on 15 November. By late that morning, the region (except the Wairarapa) was subject to prolonged heavy rainfall. This rain resulted in flooding and multiple slippages throughout the area, particularly affecting state highways. SH1, 2, and 58 were cut at various times during the day, often at multiple points, and a mini-tornado tracked across the Kapiti Coast (WREMO, 2017). Over the following days, there would be a range of issues that would challenge responders, including a king tide, super moon, bomb scares, an armed offender callout, as well as a swarm of bees coming into Lower Hutt and settling on a parked car. Emergency Coordination Centre staff compiled a notice board of the events, which now resides in the Wellington Region Emergency Management Office as a trophy.

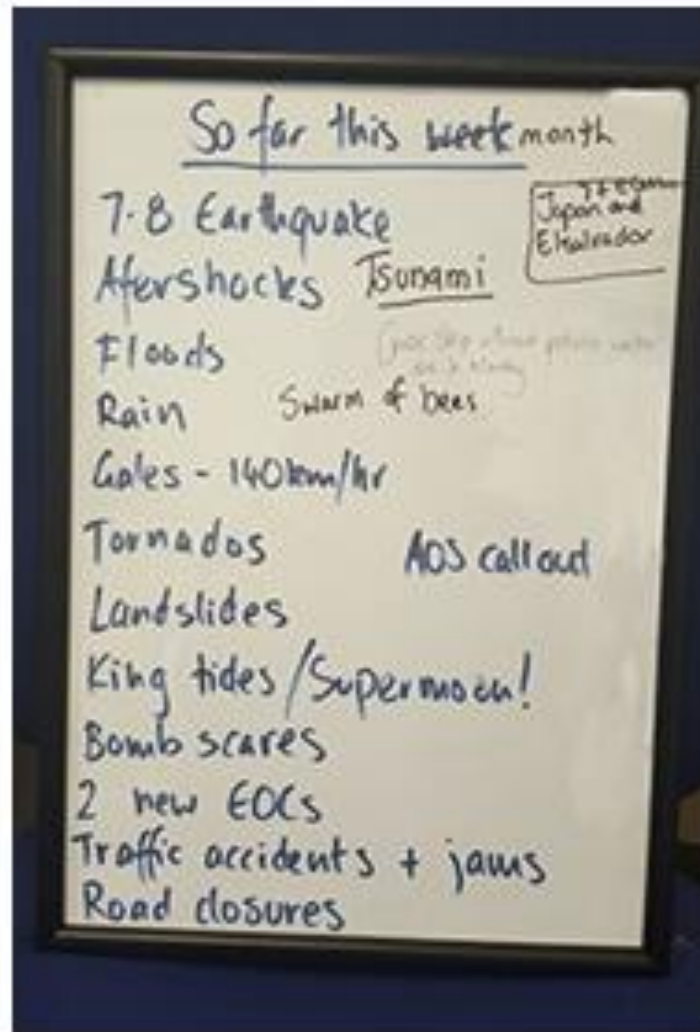


Figure 34 When you know you are having a bad day

On the morning of 14 November, having had little sleep (the earthquake occurred at 0002), emergency management staff faced a confusing picture of multiple potential threats. Initially, the primary focus was on a possible tsunami. With notification that there was no tsunami, the focus shifted to the threat posed by damaged infrastructure (buildings and networks), noting this would prove challenging, being dark and everything shut down. The immediate focus shifted swiftly back to the tsunami threat, with the subsequent national advice issued an hour after the earthquake. Several hours later, when this threat had been stabilised, control attention moved back to infrastructure, particularly the state of city centres (Interviewee 1 - Controller, personal communication, September 30, 2019). Given the level of uncertainty, the

strong likelihood of damage, and the commencement of the working week shortly for tens of thousands of commuters, a decision was made strongly advising people not to come into the CBD that day (Fleisher, 2019). Commuters were told not to return until they had heard from their employer that their building was safe to reoccupy. The onus was thus placed on building owners to have their buildings cleared by an engineer and to liaise with tenant management. That bought council staff sufficient time to conduct a rapid impact assessment once daylight occurred. Those buildings assessed as a threat to public safety were cordoned off, and this included those streets where the wind had picked up glass from damaged windows, sending shards cascading down onto the pavement. A building control team was established, and over the next twelve days, the team reconciled the list of approximately 1200 buildings recorded in the CBD against the inspections conducted. Several buildings were identified as having sustained damage rendering them a potential hazard. Cordons were then established, keeping members of the public at a safe distance (Fleisher, 2019). Unlike Christchurch, where there had been an epicentre of damage, buildings across the Wellington region rendered inoperable were spread unevenly across Wellington city in ones or twos, with another located 16 km away in Lower Hutt (Interviewee 1 - Controller, personal communication, September 30, 2019).

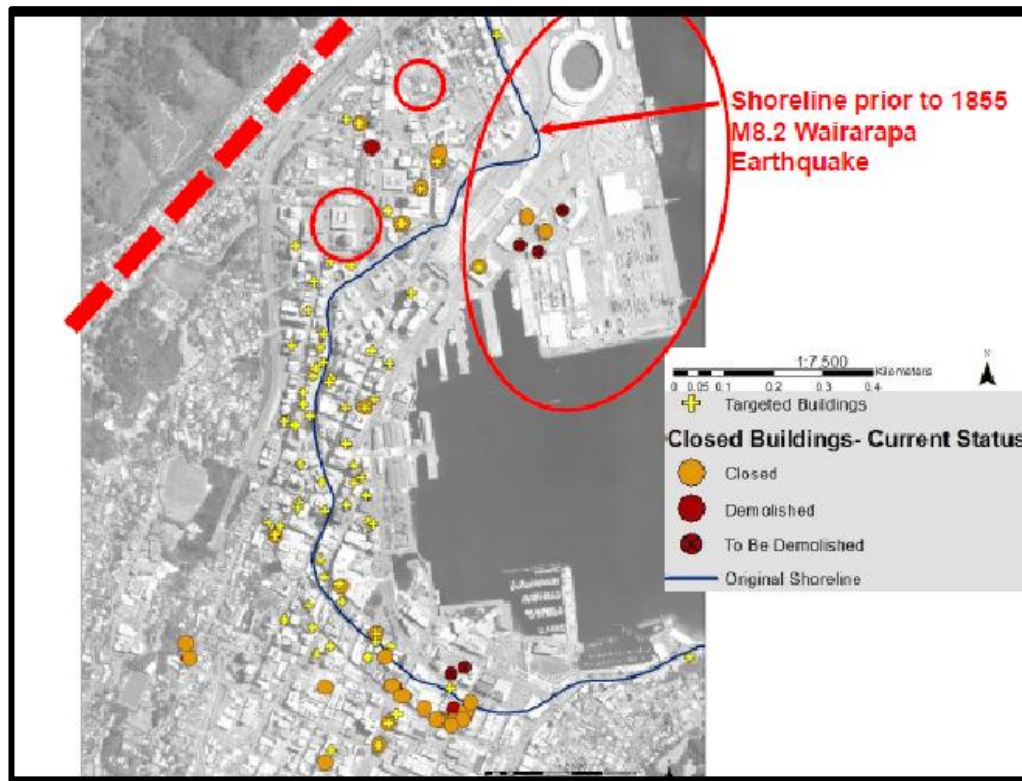


Figure 35 Damaged Building Register
(Copied from an engineering presentation)

Throughout the response period, there were two primary objectives. While the public's safety was paramount, it was also crucial that any short-term response actions did not unnecessarily adversely impact long term social and economic well-being (Interviewee 1 - Controller, personal communication, September 30, 2019).

During the Response phase, decision-making changed from a more collaborative approach with the community (as in the pre-event phase) to a more directive engagement. This situation saw many initial calls made using recognition-primed decision-making⁶ (Klein, 2017), often with insufficient information available to be confident of the correct approach, complete with the frustration accompanying a multi-threat, rapidly evolving/changing situation. During the response phase, decisions were made covering matters where the appropriate balance for the

⁶ A more detailed explanation of recognition-primed decision-making is on page 270

relevant dichotomy had never been satisfactorily established. For instance, what constitutes safe? Which path enables the public to remain safe without adversely impacting the social and economic well-being of the community? There were several decisions made that could have had disastrous consequences regardless of the path chosen. For example, assessing the tsunami impact as only affecting the red zone, putting people at risk had the tsunami been more significant. On the other hand, unnecessarily evacuating people in a panic could have led to traffic/pedestrian accidents (Interviewee 1 - Controller, personal communication, September 30, 2019). During the response phase, in addition to public safety decisions, the issues requiring leadership attention ranged from:

- a. Sending some emergency management staff home (notwithstanding the gravity of the situation, the response required sustaining 24/7 for many days and staff needed sleep if they were to be effective).
- b. Reassigning staff where it became apparent that their talents could be better employed elsewhere (noting that many of the staff had never previously experienced an extreme context in a leading role).
- c. Public messaging (informing and building confidence).
- d. Coordinating regional networks (transport management).
- e. Meta-leadership - managing self, up, down, across, and beyond the organisation (including requesting a response partner re-engage as part of a unified response effort).
- f. Liaison with lifelines organisations and making arrangements for displaced residents (Fleisher, 2019).

At its height, the response was managed from a regional Emergency Coordination Centre (ECC), five Emergency Operations Centres (EOC) and a Transport Operations Centre. By the end of the second day, the Operations Centres outside of Wellington City were no longer

required. After the first week, the remaining (Wellington) EOC and ECC were amalgamated, and staff from the surrounding councils were utilised to supplement Wellington City resources (Interviewee 1 - Controller, personal communication, September 30, 2019).

Post-event (Recovery) Phase

After twelve days in response mode, the Wellington Emergency Operations Centre and regional Emergency Coordination Centre were deactivated. The residual situation was then transferred to the Wellington City Recovery team to manage. This event was the first recovery operation to be run under new government legislation designed to give additional powers to local bodies to manage recovery operations, independent of powers granted under response, fast-tracked to assist those councils affected by the earthquake (Interviewee 1 - Controller, personal communication, September 30, 2019). This situation saw a new Recovery Manager appointed and a team assembled to lead recovery operations throughout the city. Being a new role, the structure and principles created to conduct this function were largely untested. The person chosen for the role had to be able to span a wide range of disciplines (Community well-being, insurance, council services, finance, economic recovery, central/local government collaboration) (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019). The nature of the work meant that role was more about collaboration and partnership than being directive.

Magnitude and Probability of Consequences

The event was significant, albeit there was no loss of life in the Wellington region (although two people died in the South Island). Had the event occurred during business hours, the situation would likely have been quite different (Interviewee 1 - Controller, personal communication, September 30, 2019). The impact on building infrastructure was significant. Several buildings required deconstructing either during or shortly after the response phase. One suffered a partial collapse of one of its floors (Fleisher, 2019). Three weeks after the

earthquake, it was estimated that in Wellington City alone, approximately 16 buildings, 167,300 square metres or roughly 11% of office space had closed and was awaiting assessment, with approximately 50 tenancies affected (Harris, 2016). Some six months after the event, Wellington high rise building owners had lodged insurance (building damage and loss of income) claims totalling \$947m (Winter, 2017). A year after the event, a total of forty-five CBD buildings were found to have sustained considerable damage. Four years later, this situation remains fluid, with delays caused by negotiations between building owners, engineers, and insurance companies.

Business was hit hard, notwithstanding recent exposure to earthquakes (three years earlier), and business continuity was not as robust as it should have been.

Your ability to deal with these situations is all about how well you are prepared in advance. So, it is all about making sure you have the right team with the right capabilities and that you have the right mechanisms in place to deal with the situation. Now, we don't always have those, and Kaikōura was, a lot of us thought we were ready, having gone through a previous shake probably about two or three years prior - we all thought we had the robustness in our systems - risk planning - we all thought we had all of that in place. And what it did show us was previous earthquake experience was not close enough to home, I think, to really make you think about what you had to have in place, where the Kaikōura event - the impact it had on Wellington really brought it home - with the sort of things you really needed in place. And you know, interestingly, the Kaikōura event has meant that our organisation in this current Covid event has been a much easier transition for us with having systems availability . . . one of the decisions (during Kaikōura) that did resonate with me, and it was a risk-based decision, was to open the city back up for business (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020).

One of the critical businesses (and an essential lifeline) affected was Wellington's port. CentrePort, the region's port management company, reported a \$35.7m loss for the six months ended 31 December 2016, after a \$4.6m profit for the preceding six months ("Wellington's CentrePort Posts \$35.7 million 1H Loss after Kaikoura Earthquake," 2017). The port suffered catastrophic damage during the event, with slumping of up to half a metre caused by mass settlement of some portions of reclaimed land and lateral spreading of approximately a metre (Cubrinovski et al., 2017). This situation resulted in the requirement for substantial soil structure remediation, buildings being demolished, not to mention disruption to port operations.

Physical and Psychosocial Proximity

The situation in Wellington was very much a case of "we are all in this together" with leaders, response staff, emergency service partners, and the public all living in the immediate vicinity and with a stake in its continued success. Therefore, decisions on public safety matters applied to those leading the response, members of their families, and members of the public. While people from the affected area accepted the situation they found themselves in, others from outside the region were not so inclined. One visiting sports team declared the situation unsafe and departed the Wellington area rather than play their scheduled match (Interviewee 1 - Controller, personal communication, September 30, 2019).

Media interviews were conducted in situ and not from a briefing room, miles from the affected area. Response leaders took time from their busy schedules to provide general direction, discuss some of the factors leading to those decisions, and engage in personal interest interviews at the request of the media.

Leadership is not solely the prerogative of those so appointed. During the series of events, numerous acts of community (unofficial) leadership occurred. Passengers on a stationary train (arising from the need to satisfy track integrity following an earthquake) were hosted at the

local community emergency hub for a cup of tea. Neighbours assisted neighbours (Interviewee 1 - Controller, personal communication, September 30, 2019).

Form of Threat

The nature of the threats presented was numerous. Physical (directly as a result of the earthquake, tsunami, floods, slips, and storm, and as a second-order consequence, arising from building damage), material (the state of buildings and infrastructure), economic (loss of livelihood with people unable to access business premises), psychosocial (from a potential loss of confidence in leadership or their ability to safely go about their everyday business within the region) (Interviewee 1 - Controller, personal communication, September 30, 2019).

Attenuators

As previously stated on page 16, attenuators are those actions taken to ameliorate the degree of extremeness experienced by leadership and followers.

Strategic approach to keeping a damaged city running.

In Life, as in chess, forethought wins. Anon

Leadership is often judged through results, although this can ignore those processes leading to those decisions/outcomes being flawed. The decision(s) to keep a damaged Wellington City running (maintaining public safety whilst preserving economic and social well-being) was undoubtedly controversial at the time (mainly because of the Christchurch experience). There was a lot at stake and a lack of information available that might guarantee an outcome, either way. In hindsight, the original path had been determined through a recognition-primed decision model, although at that time, none of the decision participants was aware of this particular concept. As time allowed, a more formal process was followed using a template to consider options.

“I was never particularly happy with our strategy, however in the twelve-day response phase, we were never able to come up with a better option so that only left us to execute our strategy to the best of our ability” (Interviewee 1 - Controller, personal communication, September 30, 2019)

At the end of the daily coordination meeting with partner agencies (council, Police, Fire, and building engineers) held at 1600, the controller would ask the same question. “Have we moved too quickly? Should we pull back, perhaps veer left, or right?” The response was neither affirmation nor a rejection, mostly silence. The team was in unfamiliar territory.

This strategy was also linked with recommending the city/region declare a local state of emergency (which was contemplated several times). Some of the factors relevant here included (Interviewee 1 - Controller, personal communication, September 30, 2019):

- a. Did the city/region have sufficient control over the situation, people’s actions, and the resources necessary to respond appropriately? Would a declaration have added (demonstrable) value to the process?
- b. How accurately staff could determine those areas that were unsafe to the public. Factors here included the expected structural resilience of the building stock, the performance of indicator buildings, the type of buildings that represented the likely risk, the lack of an epicentre of damage, and the repeat of assessment processes used during the 2013 series of earthquakes.
- c. The preferred means of accessing building integrity results. Had the city/region declared, under section 76 of the CDEM Act, the controller could have required building owners to provide this information. But only where this was “in the owner/managers’ possession, and the information was capable of being provided without reasonable difficulty or expense”. The formal alternative was for the controller to commission engineers to carry out inspections under section 92 of the same Act.

In hindsight, a handy piece of scholarship on the subject would have been Grint's (2008) take on the work conducted by Rittel and Webber (1973) introducing the concept of wicked problems; those problems which are complex, intractable, and for which there is no clear link between cause and effect. "You cannot force people to follow you in addressing a wicked problem because the nature of the problem demands that followers have to want to help" (Grint, 2010, p. 20). In other words, you cannot solve other people's wicked problems. Here, the role of leadership is to empower the collective (or community) with knowledge, tools, and direction, to solve their problems. An early decision was made to place the responsibility for personnel safety inside buildings with building owners and employers. In the meantime, commuters were strongly discouraged from coming into the CBD until they had received this clearance (Fleisher, 2019). This situation was reviewed later that day following a rapid impact assessment, and commuters were advised they could return subject to clearance being given by the building owner/employer.

Is life like a giant game of chess, as the anonymous quote suggests? In life, people make decisions, and those decisions then lead to outcomes that necessitate further choices. Grandmasters possess the ability to formulate in their minds the various permutations of many moves, assess them, and then step back to make the appropriate move (Ekaterina, 2012). Once the move is made, it cannot be reversed, meaning the context has now changed. This situation appears similar to the relationship between leadership and context in Hannah et al.'s (2009) framework and consistent with the challenges faced by response leaders each day during the Kaikōura series of events:

- a. By issuing a strong advisory (to refrain from coming into the CBD), Civil Defence gained time to conduct a rapid impact assessment. Would the advisory have worked across two days?

- b. Would a desire to limit people in the CBD for a more extended period have necessitated the local declaration of an emergency?
- c. Had a local state of emergency been declared, what would have constituted a need for a larger, more formal exclusion zone?
- d. Would a more formal exclusion zone and the resource required to police it have hindered the city's ability to get back up and running?

Previous experience

Wellington residents are familiar with earthquakes. Every year New Zealand experiences over 15,000 earthquakes, of which one hundred to one hundred and fifty are of sufficient magnitude to be felt. Many of these are located in the vicinity of Wellington (GNS Science, 2020). Before the Kaikōura earthquakes of November 2016, Wellington experienced a series of earthquakes of up to 6.5 Mw magnitude in mid-2013. These earthquakes resulted in considerable damage, and commuters were again discouraged from coming into the central business district while a rapid impact (building/public safety) assessment was completed. The events also highlighted building design shortcomings, the consequences of which later became apparent during Kaikōura (Rutherford, 2017). While recent experience was relevant, it did raise the possibility of cognitive bias. The ruptures occurring during the Seddon series and Kaikōura were initially reported as of similar magnitude. However, the impact and consequences subsequently turned out quite differently (this factor is therefore also included as an intensifier).

Shared Responsibility

While the initial response was centrally managed, consistent with the strategy of keeping a damaged city running, public safety responsibilities were shared by placing the onus for individual building safety with building owners and employers. This strategy meant that actions designed to restore normal city operations could occur concurrently. As previously

stated, it was also consistent with Grint's (2008, p. 13) notion that "wicked Problems require the transfer of authority from individual to collective because only collective engagement can hope to address the problem". However, leadership at the time was unfamiliar with these relevant scholarship principles.

Messaging

Leadership during the response phase was able to alleviate many of the public's concerns through repeated, consistent, accurate, credible, and personable messaging. While this occurred across all channels (TV, radio, newspaper, emergency text alerts), the electronic media was particularly successful. During the week following the earthquake, WREMO 's staff made 203 posts on Facebook, with the page receiving 10.7 million impressions. The website received 164,523 visits and Twitter a further 1.4m impressions (WREMO, 2017). During the response phase, response leadership embedded a Stuff journalist inside the ECC (in a separate office away from the operations room) and kept her updated with developments. This unusual media arrangement meant the local newspaper, the Dominion Post (part of the same media network), obtained accurate, up-to-date information. As the event's novelty waned, the relationship resulted in several personal interest stories and video clips. "Access to officials and information was initially a challenge but I was lucky enough to be allowed to set up at the Civil Defence. This allowed me to gain a greater insight and relay important official updates to my colleagues and the public" (Interviewee 11 - Senior Journalist, personal communication, August 12, 2020).

Serendipity

This factor was important, although not as easily directly influenced as perhaps other factors. During the initial stages, leadership had to meet the compounding challenges of a tsunami, earthquake, storm, slips, and flooding, exacerbated by the intensifiers listed below.

“It started as a really bad day at the office, and then we got lucky” (Interviewee 1 - Controller, personal communication, September 30, 2019).

In Wellington, no one died. As bad as things were, the situation could have been that much worse had the earthquake occurred during business hours. Statistics House alone, which suffered a partial floor collapse, could have seen many casualties (Burr, 2017). Also, in an unusual departure from standard aftershock patterns, the series fell at the lower end of the forecast range (McSweeney, 2016). A typical pattern of aftershocks as experienced during the 2013 Cook Strait/Seddon series, may well have dented confidence and lengthened the time taken to move through to the recovery phase. All this raises the question. What is luck, and how can you generate it?

Intensifiers

As previously stated on page 16, intensifiers are those pressures arising from the context that add to the level of extremeness experienced by leadership and followers.

Time and Complexity

Both time compression and level of complexity were significant intensifiers. The number and variety of separate events, occurring within a matter of days and compounding on one another, plus the initial confusion about what was happening, affected both leadership and the public. Four months after the earthquake, scientists examining the event stated that the series of ruptures may be the most complex ever recorded. However, it would take years to complete a full analysis (Morton, 2017). Pity the poor emergency manager who then had mere minutes to gauge what had occurred, assess its significance and likely impact, and then deal with the consequences.

The response phase in Wellington City lasted for twelve days (around the clock). The level of personal resilience/organisation required for this was beyond the endurance of some individuals (Interviewee 1 - Controller, personal communication, September 30, 2019).

High Profile Comment

A constant source of aggravation during the response phase was from high profile individuals conveying their opinion on how the response was being managed despite having no detailed first-hand knowledge of what was occurring, how and why. A prominent Christchurch based academic who had been severely injured during the Christchurch earthquakes appealed to Wellington to learn from the Christchurch City Council's experience (Yardley, 2016). She added to her criticism, saying Wellington "always had a smugness about their approach." In the same article to the comments above (Devlin, Cann, & Flahive, 2016), the Minister of Civil Defence was reported as saying, "I am a little surprised, after closing the city on Monday, the decision was so very quick to say it was OK on Tuesday. I am somewhat unhappy about that, and we are going to have to talk to them." At the subsequent briefing initiated by the Wellington Group, the Minister appeared comfortable with what had occurred (Interviewee 1 - Controller, personal communication, September 30, 2019), but by then the damage resulting from these comments (in the public arena) had already occurred.

Wellington had learned from the Christchurch experience; only what they were dealing with was a set of circumstances quite different from Christchurch. This situation then required a different approach, appropriate to the context.

"Hardly a day passed without someone wandering into the ops room to tell me a particular high-profile person had just thrown me under a bus" (Interviewee 1 - Controller, personal communication, September 30, 2019).

This situation frequently required an adjustment to the immediate operational focus to strengthen key messaging in that area. The issues to be considered were the legitimacy of the concern (did they have special knowledge that should be factored into decision-making) and the means of engagement (the weight placed on throw-away remarks to the media; would a genuine concern be shared, direct?). While the comments highlighted, what may have been,

shortcomings in messaging, their receipt during what was an intensely stressful time proved a considerable intensifier.

Extraordinary Interest

The series of extraordinary events prompted many people (including some high-profile individuals) to write directly to senior staff to offer suggestions, provide points of criticism, or question various approaches. Many of those corresponding, if not high-profile individuals, felt it necessary to copy in politicians (Interviewee 1 - Controller, personal communication, September 30, 2019).

- a. Why do we not have tsunami sirens? (Local politician).
- b. I just read on the internet the “triangle of life” theory. Is this something that we should use to inform people? (Local Politician).
- c. Why should I continue to allow my school to be used as a Civil Defence Centre? (School Principal).
- d. Your invite to a business continuity workshop at such a time and short notice indicates a lack of planning (School Principal).
- e. The “long or strong, be gone” tsunami message does not work. (Regular CDEM critic).

Each of these examples provided an opportunity to engage constructively; they were matters deemed important in the minds of the corresponder and, no doubt, others. Several required a degree of diplomacy in the response, others required the issue to be shut down to avoid official messaging being lost/diluted/distracted and the potential for second or third-order impacts.

Cognitive Bias

A further intensifier was the potential cognitive bias (or, in this instance, anchoring bias), where people rely too heavily on pre-existing information or the first information to hand when making decisions (Sibony, 2019). In this case, the earthquake was initially reported at

roughly the same magnitude (6.5 Mw) as the Seddon series of earthquakes some three years earlier. It took some time to understand the differences in impact and the appropriate approach to dealing with the presenting hazards (Interviewee 1 - Controller, personal communication, September 30, 2019).

Staff Focus

At the time of the earthquake (two minutes past midnight), many of the critical responders had, at best, an hour's sleep to sustain them through the following day. Although their services were required, some key staff were sent home to rest to be available for a later shift. That night when the day shift handed over and went home, some people, high on adrenaline, found it difficult to go to sleep. There followed a challenging time as staff adjusted to new routines whilst trying to remain fresh. For some, the sleep deficit took several days to clear (under the new routine). Other staff attempted to stay on top of business-as-usual work. This approach disrupted any healthy pattern allowing leadership to focus on priority response tasks.

Situational Awareness

The information available during the early stages of the series of events was insufficient to support optimal decision-making (Interviewee 1 - Controller, personal communication, September 30, 2019). National-level authorities made the initial decision of no tsunami risk in advance of knowledge that there were multiple ruptures (on and offshore). The call at the regional level on the tsunami impact was made in advance of official national guidance. The initial assessment of the rupture magnitude was considerably below the final magnitude, confirmed three days later. The initial assessment of the rupture impacts on the Wellington building stock took many days. The full implications were revealed months later, following more detailed damage evaluations directed by the Wellington City Council. All this occurred in a multi-threat environment with decision-makers grappling with the effects of a tsunami,

earthquakes, storm, slips, and flooding, either simultaneously or immediately concurrently (WREMO, 2017).

Clarity of Information

Many small independent media sites have been established in recent years, ostensibly to promote and support community endeavours/interests. These media entities are unofficial (and therefore not compliant with industry norms), run by enthusiasts, with the content unmoderated. They are popular. One Facebook page established to keep people in central New Zealand abreast of earthquakes and storms had nearly 60,000 followers. Another with a broader focus but limited to the Wellington area had over 210,000 followers (Interviewee 1 - Controller, personal communication, September 30, 2019). The official emergency management Facebook page (of WREMO, which promotes itself as the credible source of information) had a mere 71,700 followers by comparison ("WREMOnz," 2020).

Notwithstanding the disparity with unofficial site followers, WREMO (the Wellington Region Emergency Management Office) is number 14 in the New Zealand government Facebook page statistics (behind NZ Immigration, NZ Police, NZ Defence Force, MFAT, FENZ, NZ Human Rights Commission and Auckland Council). They are ranked by organisation, as number eight, as several of the above have multiple Facebook pages (Socialbakers, 2020).

During the Kaikōura series of events, there were numerous examples of both valuable and unhelpful messaging (Interviewee 1 - Controller, personal communication, September 30, 2019). Those examples that qualify as an intensifier include:

- a. A lack of accurate source data related to the tsunami.
- b. Early tsunami messaging by WREMO being inconsistent between their Facebook page and their other media sources, including the Red Cross text alert system ("WREMOnz," 2020).
- c. Unmoderated and inaccurate tsunami messaging by independent Facebook pages.

- d. Somebody recommissioned a closed WREMO Twitter account and promulgated information as if they were WREMO.

When this was brought to my attention, I directed the public information team to issue a message across all social media outlets informing members of the public that this was occurring and listing those WREMO sites containing official information. Immediate feedback from one correspondent was that I was only doing this to protect my market share. I shook my head in disbelief (Interviewee 1 - Controller, personal communication, September 30, 2019).

In the days after the Kaikōura earthquake, one building owner and employers declared a building safe, only to later change their mind and direct staff to evacuate. On this occasion, the decision taken was for precautionary reasons after two sets of engineers could not agree (Williams, 2020).

Response of Adaptive Leadership

In providing commentary in this section of the thesis, it is essential to be mindful of Grint's (2008, p. 12) explanation of a wicked problem, particularly that "it cannot be removed from its environment, solved, and returned without affecting the environment." What occurred during Kaikōura was a series of events, decisions, reactions, and outcomes, with each influencing those factors around them. Even with the benefit of hindsight, it would not have been possible to solve the complete set of challenges. This realisation is because the relationship between decisions and outcomes would have been further influenced by reactions that could fuel another round of outcomes, thereby requiring further (and maybe different) decisions. This situation can be likened to a game of chess, but instead of responding to the actions of a single opponent, the emergency manager must factor in not only the event(s) but also the reactions of numerous groups (governance bodies, the response hierarchy, response partners, media, the public – who may disagree even amongst themselves). Osborn et al. (2002, p. 797) explain

this symbiotic relationship as “leadership and its effectiveness, in large part, are dependent upon the context. Change the context and leadership changes.” Note: the following examination of the leadership/context is not intended to pass judgement on the decisions made, but to merely highlight some of the relevant contextual factors challenging leadership at the time.

What transpired from this research was that decisions and strategies by leadership were normative (representing what, when and how). This decision-making occurred in the absence of any related scholarship (to aid understanding and better determine the why).

Assessing the Impact of the Tsunami

There was considerable confusion during the period leading to the official acknowledgement of the tsunami. The challenge for local-level leadership was assessing its magnitude and impact in advance of any helpful advice from the national authorities. As previously stated, this was achieved from (limited) tide gauge and tide table data, an eventual acknowledgement that contrary to initial reports (of a land-based rupture), there were multiple ruptures, some off-shore, plus advice from the Group’s local hazard advisers. As a result of this advice, the controller was sufficiently satisfied to issue a red zone (under one metre) warning. To wait any longer for more detailed advice from national authorities would have left it too late to have any meaningful impact on the community.

“Having made and promulgated the decision, I was quite unprepared for the nauseous feeling that accompanied it. What if I was wrong?” (Interviewee 1 - Controller, personal communication, September 30, 2019).

The situation described above is a classic “leadership in extreme contexts” conundrum; a simple decision made all the more complicated by lack of information, incorrect information, pressure from potential impact, and the need to juggle competing priorities (assessing the impact of infrastructure damage). This added to the psychological and physiological pressures

imposed on the controller. If this was not enough, the situation was compounded 30 minutes later, by national advice that the impact on the Wellington region could range from one to three metres. This announcement caused yet another round of discussions with local hazard advisers. The decision was that messaging should remain with a one-metre max, red zone event. Reflecting on these decisions, the controller had previously worked with the local hazard advisers concerned, knew them personally, and respected their advice. Again, on reflection, the controller only knew the national adviser as a voice on the end of a telephone, and the cues being received from the local tide gauge supported the lesser impact (Interviewee 1 - Controller, personal communication, September 30, 2019). Asked why the controller didn't go for the safe option and recommend a more comprehensive evacuation, the response was, that what little evidence there was didn't support this. An unnecessary panicked evacuation could in itself lead to casualties (traffic accidents, heart attacks, and a resulting lack of confidence in Civil Defence).

Matching Adaptive Leadership Styles to Theory

Hannah et al. (2009) discussed at some length the relevancy and appropriateness of leadership style versus effectiveness in typical situations and during extreme contexts. Their inference was that as the threat increased, people expected their leaders to centralise authority and respond/deliver accordingly. They were less definitive on the leadership mode that might cater to various contexts, providing examples of what had worked in various real-life scenarios. This understanding is consistent with an assessment by Geier (2016) provided earlier in this document highlighting the lack of consensus amongst scholars in determining the most effective leadership style during extreme contexts, all suggesting the unsuitability of static theories when applied within dynamic situations. Hannah et al. (2009) overcome this by proposing a framework, something supported by Grint (2008) and Snowden (2005). This approach is developed further in the following chapter.

Covid 19 Pandemic

Location in (and across) time

To some extent, the Covid 19 global pandemic highlighted factors present in extreme contexts that were not as visible during other scenarios. This situation was a product of the length and pace of the pandemic. Events like earthquakes happen suddenly; there is a short response phase and a much longer recovery phase. For New Zealand, the pandemic took a couple of months to arrive, the response phase has been considerably longer, and the impact has been universal, adversely affecting everyone in differing ways. At the time of thesis submission, it was unclear what the future state might look like, uncharted territory.

Preparation Phase

In providing context for the lead into the Covid 19 pandemic, over the past couple of decades, there have been several pervasive respiratory/influenza type infections affecting large sectors of the globe, including, but not limited to:

- a. From 2002 to 2004, a severe acute respiratory syndrome-related Coronavirus (or SARS-CoV) affected much of Asia with isolated cases worldwide. For New Zealand (one reported case), there was negligible impact apart from those people transiting through infected areas, where they were subject to local screening processes (Health Navigator New Zealand, n.d.).
- b. 2009 saw the first cases of a new pandemic of what was to be known as swine flu. In New Zealand, this saw 1122 people hospitalised, with 49 official deaths ("NZ swine flu pandemic costly to battle," 2012).
- c. In 2012 the first cases of Middle East Respiratory Syndrome (MERS or camel flu) were diagnosed. Again, the impact on New Zealand was minimal (Ministry of Health, n.d.-b).

- d. 2013 saw the first cases of a recent outbreak of what was to be known as Avian or bird flu. Primarily limited to Asia, this outbreak was notable for the television images of large numbers of poultry being destroyed (Ministry of Health, n.d.-a).

New Zealanders, therefore, watched with interest but little appreciative foreboding as the Covid 19 situation unfolded, initially in China in late 2019 and by early 2020, elsewhere in the world. By late January 2020, the World Health Organisation (WHO) had declared the situation a public health emergency of international concern, and this was subsequently upgraded to pandemic status on 11 March 2020. The first reported case in New Zealand was on 28 February 2020 (S. Wilson, 2020).

While New Zealand had for some time recognised the possibility of a pandemic as part of its hazard scape, this had evolved to the point where the Wellington Region CDEM Group had identified the risk as number one in its most recent strategic assessment (Wellington Region Emergency Management Office, 2019). This possibility was further acknowledged with the Group annual exercise for 2019 covering a pandemic scenario.

In situ (Response) Phase

Noting the situation unfolding initially across Asia and then in other parts of the world, concern within New Zealand grew throughout February and March. On 3 February, the NZ Government announced restrictions on visitors from China. On 5 February, a government-chartered flight had repatriated NZ and Australian passengers from Wuhan, China, subject to lockdown arrangements. By 20 February, four NZ passengers on a cruise ship in Japan were reported as having contracted the virus (Radio New Zealand, 2020). By the time the first person on NZ soil had contracted Covid 19 (a citizen who had returned home from Iran via Indonesia), New Zealand was the 48th country to register a confirmed case. New Zealand's second case was registered on 4 March, and from there, numbers increased, with the growth (initially) peaking in early April with eighty-nine new daily cases. By then, the New Zealand Government had

introduced a 4-level alert system, going to Alert level 2 (Reduce) on 21 March, level 3 (Restrict) on 23 March and finally to Alert level 4 (Lockdown) on 25 March 2020 (S. Wilson, 2020). A national state of emergency was declared for all of New Zealand on 25 March 2020. This situation remained for several weeks until de-escalation; Alert level 3 (Restrict) on 28 April and then level 2 (Reduce) on 13 May 2020. The national state of emergency expired on 13 May, and a national transition period came into force (New Zealand Government, 2019; Russell, 2020). Note: these dates are for the initial exposure only.

While health factors played a significant role in the all-of-government response, it was recognised that economic, welfare, emergency management, border control, international relationships, biosecurity, law and order, education, infrastructure, and workplaces would be critical to formulating and executing response plans. This situation was reflected in the initial national management structure, on the following page (Apologies for the poor focus. The document was produced in the National Crisis Management Centre during the early months of the pandemic but such was the workload and pace of change that despite several searches, nobody could find the original to obtain a clearer copy). Of significance, however, were the multiple strands of activity managed by separate organisations (operational and policy-based) with mechanisms applied to facilitate coordination. The structure later evolved to include the Police Commissioner as a member of the quintet of controllers charged with managing the response, circled in red, to promote unified control.

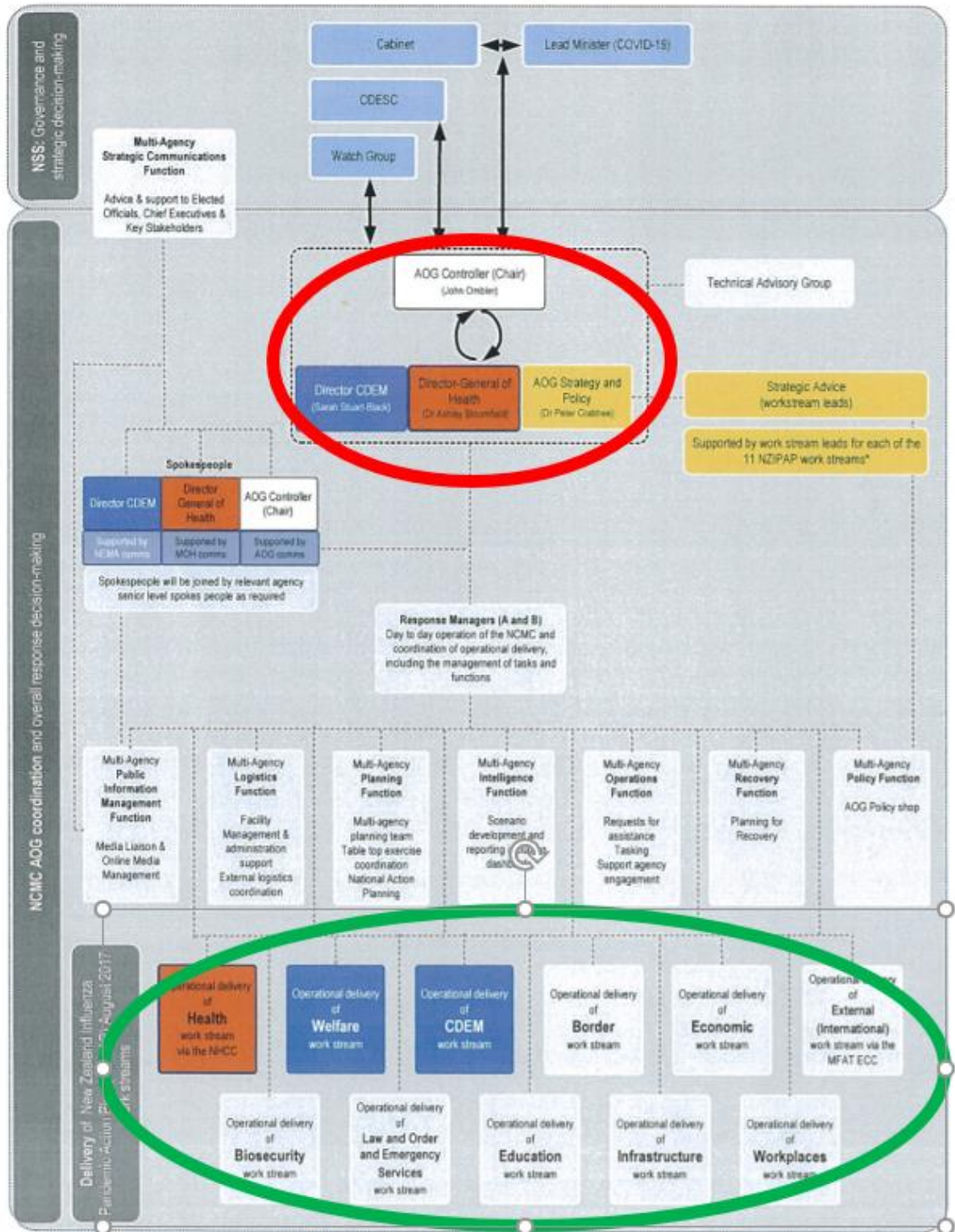


Figure 36 Covid 19 National Response Structure

Post-event (Recovery) Phase

The expiration of the initial national state of emergency and enactment of the national transition period on 13 May 2020 signalled a transition from initial response to recovery, albeit

response actions continued well into the following year with a need to increase the alert state on several occasions (Russell, 2020).

Magnitude and Probability of Consequences

As the death toll steadily mounted, it became apparent that the world was facing its most challenging influenza-based health threat since 1918 when approximately 50 million people died (Newman, 2020). However, what was uncertain was the level at which the effects would plateau, such was the difference in approach in outcome between different countries, at least initially. Given this uncertainty, the flow-on impact of other societal factors (economic, social, and psychological) was similarly challenging to gauge. What was certain was the high probability of consequences. Unless extraordinary measures were implemented, the likelihood of transmission (with flow-on implications) was high. As of the date of the time-stamp (31 July 2021), total infections worldwide had reached approximately 200,000,000, with official deaths in excess of 4,200,000 (Worldometer, 2021). The overall financial impact is difficult to quantify, however, the effect on tourism alone has been assessed at over US\$4 trillion (United Nations conference on trade and development, 2021).

Physical and Psychosocial Proximity

This event was notable in that the risk was shared between leaders and followers. As countries enacted lockdown legislation, the people charged with leading through the initial health threat (health professionals, emergency management and service staff, executive politicians, and other essential workers) were more likely to contract the virus than those remaining at home. Among the many high-profile people in leading roles who caught the virus was the Prime Minister of the United Kingdom, the President of the United States of America, and the Prince of Wales. The risks were thus shared by leadership and foot-soldiers during the response. However, there were vast differences in approach with the Prime Minister of New Zealand appealing to a collective sense of compassion with messages urging people to be kind (New

Zealand Government, 2019). At the other end of the spectrum was the President of Brazil, whose official indifference to the plight of his people was positively shocking (Oliveira, 2020).

The even distribution of risk and recognition was acknowledged by championing the commitment and value of essential workers. This promoted supermarket workers and health professionals to a level commensurate with those leading the response (One News, 2020).

Quite important as, in the minds of some, the terms essential and sacrificial may have been interchangeable.

Form of Threat

A simple analysis of Covid 19 and its impact on people reveals a complex network of threats, many with second and third-order consequences. In no particular order, these can be summarised as this evolves (and has done) over time.

Health

While the initial threat from Covid 19 was from the virus itself, flow-on consequences arising from the challenge included delays in progressing other medical procedures (both essential and non-essential), with the temporary diversion of premium resources and the loss in productivity caused by distancing. In addition to medical health, Covid 19 had a significant impact on the psychological well-being of people, with anxiety caused by stress, unfairness, and injustice (Newman, 2020).

Economic

While the full extent of economic impact has yet to be fully quantified, the initial impact on markets was dramatic. The Dow Jones Index reported a drop of nearly 11,000 points or a reduction to 63% of previous levels from 12 Feb to 23 March (Nguyen, 2020).



Figure 37 Dow Jones Values in 2020

To put this in perspective, this must be compared with market adjustments throughout the twentieth century, recorded on page 196 (Chang, 2018). Of interest is the drop to approximately 10% of previous levels arising from the great depression and the 25 years it took to recover to previous levels. Here in New Zealand, the S&P NZ stock exchange indices for late 2019/early 2020 followed a similar pattern to the Dow Jones (stock performance of thirty large companies listed on the stock exchange in the USA). While markets have recovered since these figures were published, the rebound would not have been relevant to those who panicked and shed their investments early in the proceedings.

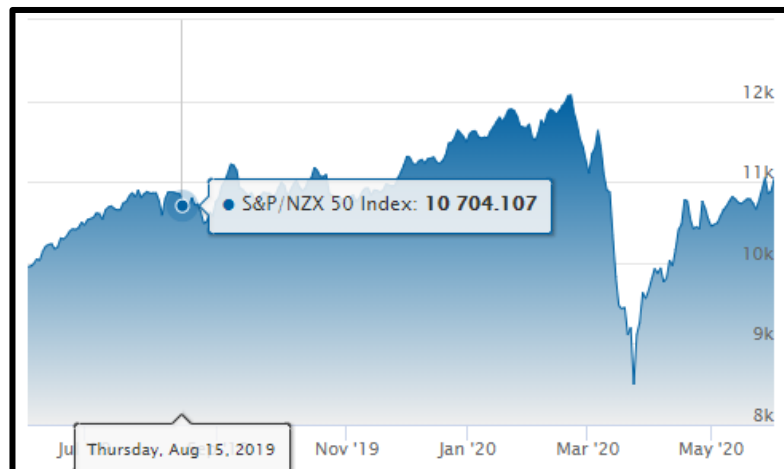


Figure 38 S&P NZX 50 Index

In addition to the direct financial impact, some unscrupulous operators looked to exploit the financial system's weakness. In New Zealand, the stock exchange was subject to a prolonged cyber-attack in August 2020, disrupting cash, debt, and derivative markets ("New Zealand stock exchange halted by cyber-attack," 2020). In addition to the costs associated with the attack, the warning for many other institutions would have seen investment in additional cyber-preparedness initiatives, all when the organisations would have been under financial stress.

Of note, the financial impact arising from successive lockdowns in New Zealand (in late 2020 and during 2021) was not as severe, as people and markets adjusted to the heightened levels of societal volatility. Those who remained in the market benefited from the recovery (Zarrolli, 2020).

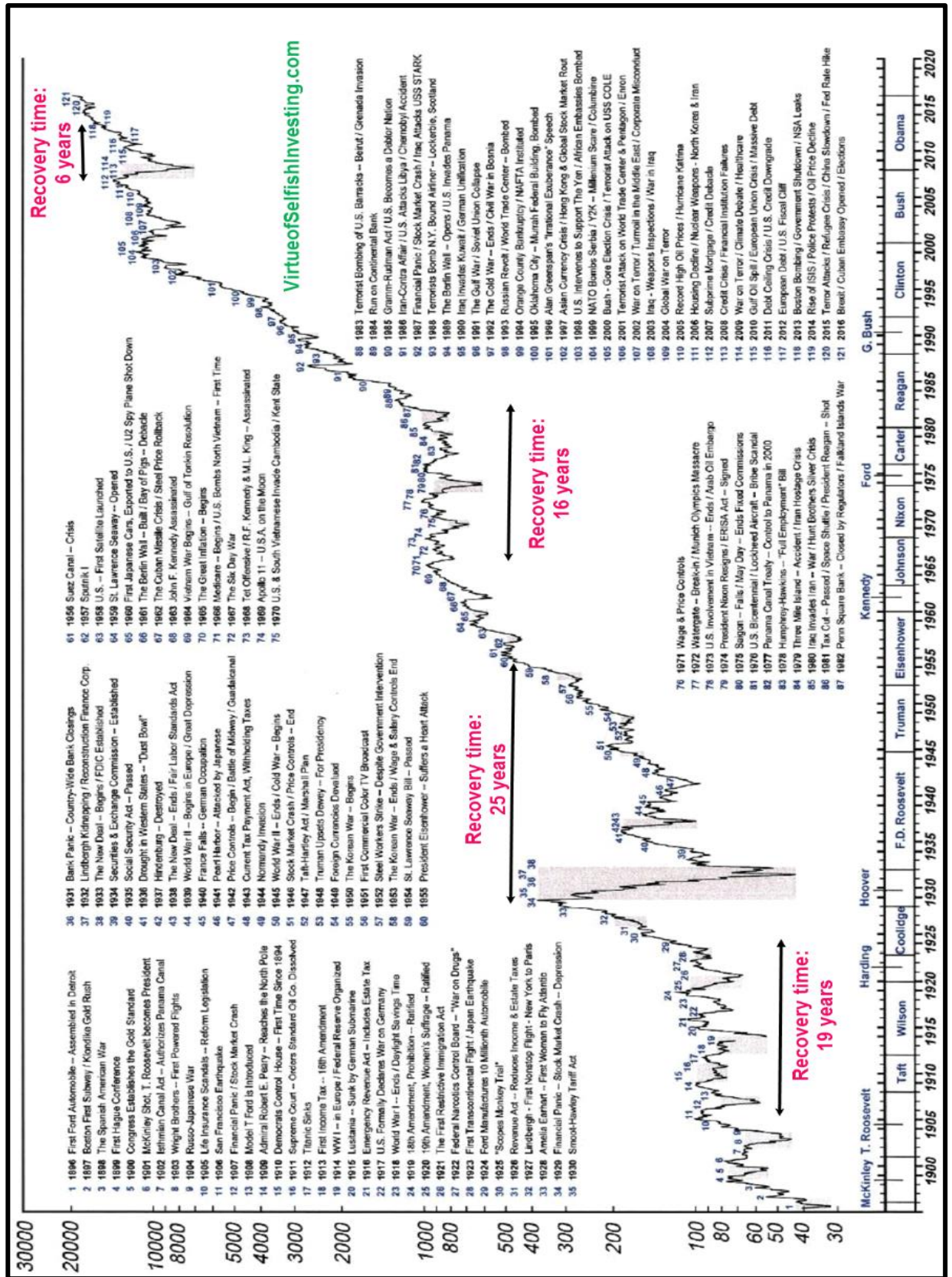


Figure 39 The Dow Jones Industrial Average: 1896 - 2016

Psychological

The psychological impacts of Covid are many, varied and have spawned considerable research. Amongst the many consequences were a lack of confidence in official systems, abuse for minority groups, stress for disadvantaged groups (e.g., the elderly), inadequate remote grieving mechanisms, and the strain of reduced social interaction (with people unable to connect in a way that was optimally supportive of their well-being). All this was in addition to the usual stress and depression that comes with unfamiliar, troubling, changing, uncertain, and volatile circumstances (Newman, 2020).

Social

One of the significant challenges faced by the government, response authorities, and partner organisations was supporting the community. They were required to find solutions for many of the real-world challenges that had proved unsolvable during business-as-usual. Included in this category were poverty, hunger, and homelessness. Because of time and policy instrument constraints, the solutions were transactional and aimed at first-order solutions (people accommodated in motels and hotels) (Interviewee 10 - Controller, personal communication, September 30, 2020). This approach was instead of determining triggers that might generate second and third-order (flow-on) effects in the way that provision of employment then generates revenue to fund housing and poverty solutions (see discussion on page 355).

Attenuators

Strategy

While pundits will debate the appropriateness of the decisions made for many years, there is no denying the ambition and decisiveness of actions taken. Locking down a country for an initial period of over five weeks (in New Zealand's case, much longer for some other countries) was both comprehensive and unprecedented. For New Zealand, this aggressive approach was critical in realising the initial goal of elimination (Cousins, 2020).

Simple Messaging

As a means of simplifying the message, during what were quite extraordinary times, the New Zealand Government reduced many of the critical messages to simple statements of intent: Stay home, Be Strong, Be Kind (Graham-McLay, 2020), and during the initial recovery phase, Buy Local, See your Backyard (New Zealand Government, 2019). These then became a rallying mantra to reinforce desired behaviours. The United Kingdom similarly introduced a package of simplified messaging (e.g., Stay home, Protect the NHS, Save lives) but then changed this mid-stream to Stay Alert, much to the chagrin of commentators (Perraudin, 2020). This situation was exacerbated when parts of the United Kingdom commenced opening up the economy in advance of other parts of the country. This simple messaging must also be considered an intensifier – see the paragraph on society norms on page 201.

Shared Responsibility

One of the key messages during the Covid-19 response was that everybody has a role. That included people in leadership positions, essential workers, those supporting the vulnerable in the community, as well as those who remained at home (Stuff, 2020). By leadership speaking in collective language and making it a shared responsibility rather than some carrying the burden for others (Flahive & Anderson, 2020), most New Zealanders initially accepted an unprecedented series of measures that restricted traditional freedoms.

Cultural factors

New Zealanders have earned and enjoyed a particular cultural profile that distinguishes them from other nations. At the time of Hofstede's (1980) published research, previously discussed on page 117, he characterised New Zealanders as:

- a. Low to mild uncertainty avoidance – some uncertainty is accepted, some tolerance of deviation.

- b. Small power distance ratio – superiors consider subordinates to be “people like me,” and authorities are prepared to trust people.
- c. Individualist tendencies – value standards apply to all, people have the right to their opinions, and people are expected to take care of themselves.
- d. Some masculine tendencies – e.g., performance is what counts, ambition provides the drive.

One of the challenges to Hofstede’s model above (Kock, Parente, & Verville, 2008) is that culture is a dynamic construct. Indeed, in the intervening time since the late 1970s, the New Zealand demographic profile has evolved considerably (Statistics New Zealand, 2020), examples being (1970s to 2020s):

- a. Growth in the number of women in key constitutional roles.
- b. Ethnic diversity – Māori 10-17%, Pasifika 2-8%, Asian 1-15%.
- c. Proportion of people born overseas rose from 14 to 27%.
- d. Change in median age 26-38 years.

Since the 1980s, New Zealand has enjoyed three female Governor Generals, three female Prime Ministers, and two female Chief Justices. There is now a significantly higher percentage of people identifying as Māori, Pasifika, and Asian ethnicity, with a corresponding decrease in European ethnicity. Each of these factors will likely have either had an impact on or be the result of cultural change.

In 2013, a survey of 1009 respondents (Colmar Brunton, 2014), evaluated responses to a number of characteristics related to national identity. Some of these appeared to have broad relevance to the findings of the Hofstede (1980) research (specifically friendly, easy-going, open-minded, risk-taking, worldly, and culturally accepting). A summary of the findings is as follows:

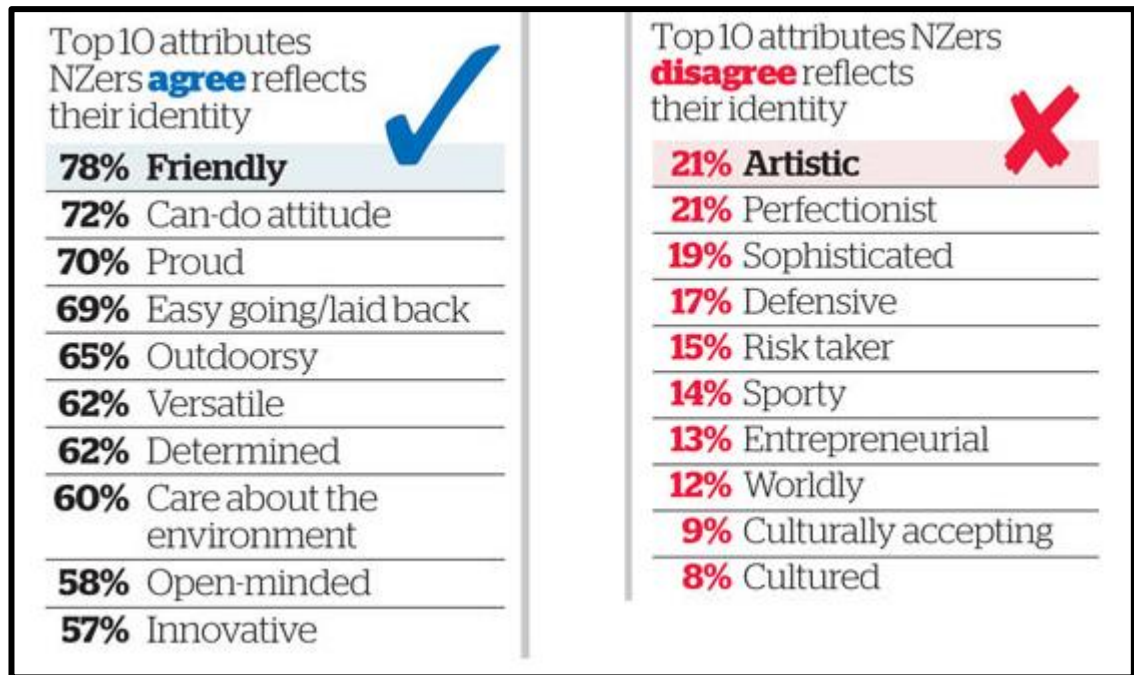


Figure 40 New Zealand Identity

(Figure copied from the resulting article in the NZ Herald)

Therefore, it came as no surprise that the Prime Minister's initial approach and key messaging tapped into the national psyche and sense of belonging, harnessing the very factors that make us strong, according to Hofstede's categorisations. This approach, however, is a two-edged sword as New Zealanders are also great knockers, commensurate with the national tall poppy syndrome (Ockhuysen, 2020). The 'Be Kind' message was on occasions thrown back when any decision did not go the way of the individual or group concerned ("NZ election: The people left behind in Ardern's 'kind' New Zealand," 2020).

Willingness to apply funding

One of the keys to an effective public response to the simple messaging (Stay home, be strong, be kind) was the willingness of the New Zealand Government to support financially compromised families/organisations. This initiative was achieved in the initial stages through an initial \$50 billion package which included job support, infrastructure investment, new jobs, targeted business sector support, and food supplementation. This approach allowed compromised members of the public to comply with messaging in the knowledge that some of

their essential needs were being met (New Zealand Herald, 2020). The resulting situation was in contrast to some other countries with different levels of and strategies for poverty attenuation, for example, India (Kugler & Sinha, 2020).

Intensifiers

Alert level 4 required people to participate in a set of restrictive practices unlike anything most had previously experienced or indeed seen occur elsewhere. These initial lockdown arrangements were sold based on personal and collective well-being (S. Wilson, 2020), however, hovering in the background were coercive powers (in the manner of a leadership versus command approach) tested on some of those unwilling or unable to follow the government's intent (Worksafe, n.d.).

Time

The time intensifier is linked to the following paragraph, Society Norms. While the time factor for Covid-19 was not as extreme as Kaikōura, relative to the context, the lead-in was insufficient to allow an orderly and fully considered response. Professor Bill Hanage, an epidemiologist at Harvard, explained it as “having to build the plane at the same time as flying it” (Wiles, 2020). This assessment was endorsed by the New Zealand Prime Minister in a later podcast (Bingham & Dudding, 2020). Using Snowden's Cynefin model (2005) on page 24, this is consistent with those actions taken for a complex emergent problem (Probe, Sense, Respond)

Society Norms

The decision to implement Covid-19 Alert level 4 required governments to enact a “new world order” to temporarily replace the previous regime. The problem was that some of the old norms had been created, acquired, and accepted over several hundred years. Such was the speed of advance, with the first New Zealander to contract the virus on 20 February 2020 (Radio New Zealand, 2020) and Alert level 4 lockdown, on 25 March 2020 (New Zealand Government, 2019), there was insufficient time to recreate the full suite of rules and

regulations guiding society. As previously stated, this situation necessitated a change from a rules-based society to an intent-based society – Stay home, Be Strong, Be Kind (Graham-McLay, 2020), and during the recovery phase, Buy Local, See your Backyard (New Zealand Government, 2019). The parallels with (intent-based) mission command on page 144 are worth pondering, however, the reality was that many people had difficulty adjusting (Finlayson, 2020; Leask, 2020).

Covid-19 added a significant complexity which required an approach at variance with traditional community response norms. Previous community resilience-building initiatives and emergency management messaging had always stressed the importance of people collaborating to problem solve and support each other during extreme contexts (Doyle, Becker, Neely, Johnston, & Pepperell, 2015). While the intent remained true, execution required a less traditional approach with people uniting whilst keeping a physical distance. In the early days of the response, well-intentioned people required their enthusiasm to be curbed and channelled appropriately (Interviewee 10 - Controller, personal communication, September 30, 2020).

Complexity

Like Kaikōura, Covid-19 was a multi-threat event. While labelled a pandemic, it was not a simple health threat but a multi-faceted and phased threat to society. While it might have commenced with health, it rapidly grew a psycho-social dimension and evolved into an economic threat which all combined, ultimately eroded our well-being. Accordingly, there was a need to balance the often-conflicting dimensions of the pandemic – lockdown to satisfy a health imperative versus open-up to meet economic and psycho-social needs (S. Wilson, 2020). Because of the nature of the event (wicked problem, dynamic contextual event), we can speculate whether the lockdown occurred and was lifted at the optimal times. Still, we may never know for sure whether the country arrived at an optimally balanced outcome. With a

wicked problem unable to be “removed from its environment, solved, and returned without affecting the environment. Moreover, there is no clear relationship between cause and effect” (Grint, 2008, p. 12), meaning accurate retrospective modelling of all the factors involved would have been extremely difficult, if not impossible.

Commensurate with the complexity inherent in the series of challenges associated with the pandemic, responders needed to solve many issues that had proved unsolvable during business as usual. As previously stated, these issues included homelessness, hunger, and poverty. This approach resulted in instant temporary solutions facilitated by central and local government, which saw the homeless placed in hotels/motels, additional emergency food support, and supplemental financial support packages (Interviewee 10 - Controller, personal communication, September 30, 2020). This challenge met, then required revisiting, to dismantle the temporary measures favouring longer-term, more durable solutions. At the time of thesis submission, this was proving challenging.

Clarity of Information

One of the lowlights of Covid 19 was the proliferation of false, inaccurate, mixed, and unhelpful messaging during the pandemic (Daalder, 2021). There were many reasons for this, including:

- a. The need for some people to find a reason for ambiguous or unusual occurrences (M. J. Wood, 2017). In some cases, this fuelled conspiracy theories (e.g., the perceived relationship between 5g networks and Covid 19).
- b. The ease with which people were prepared to share false messaging through social networks, even though they do not necessarily support the conclusion (Zhang & Ghorbani, 2020).
- c. Conflicting messaging from specialists, e.g., the opinions of an economist versus an epidemiologist, and the inability of some people to reconcile two vastly opposing views

on action that should be taken. If you segment a problem with sufficient granularity, it is easy to present an answer in terms of absolutes – this is right, that is wrong. Yet when looking at the same issue more strategically and with the benefit of context, the problem is often more of risk versus opportunity, with the most appropriate answer not so easily determined.

Response of Adaptive Leadership

Hannah et al. (2009) define and summarise the leadership component as Adaptive Leadership in their model. This was previously outlined in the discussion on page 185. Adaptive Leadership is a Heifetz (1994) construct which emphasises the leaders' role as assisting others to address their challenges, rather than solving those problems for them. In the leadership spectrum, it stands between the leader as a saviour and followership, which examines the role from the perspective of those being led.

Based on the analysis and discussion conducted in Chapter four, and particularly the Covid experience outlined earlier in this chapter, defining the leadership/led interface as simply Adaptive Leadership appears inadequate, albeit it appears sufficiently flexible to cater, to an extent, for many of the challenges faced during extreme contexts. Examining the challenge from the perspective of those being led is essential, particularly taking cognisance of the diversity of actions, intent, and mood amongst the people affected, as well as the impact of both the context and leadership itself.

For this group of people, while the magnitude of potential impacts was more significant than Kaikōura, the pace of advance (weeks versus immediate) was less dramatic. This gradual approach saw a degree of shock at the response but not the same level of surprise, with people surveying the horizon to gauge what might be coming next.

Sporting Example

As previously indicated, the decision was made to include a sporting example (although not to the same degree of professional scrutiny) for two reasons. Sometimes it is useful to identify and understand general principles when they occur in a parallel sector. A good example is Southwest Airlines' decision to use Formula one motor racing pitstops as their inspiration/model to streamline airline terminal operations (Freiberg & Freiberg, 1998). Militaries sometimes use sporting and business analogies to understand and improve their operations (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020). Similarly, other entities view the military as a rich source of cultural and operational material (Fraher et al., 2017). Secondly, if there are universal principles identified, how wide do they apply?

Thus, the situation of a New Zealand national sporting team during a recent world cup event was examined. While it is acknowledged that such a scenario does not fully comply with the definition supplied by Hannah et al. (2009). That is, lives are not normally at stake (although there are several examples of deaths or serious material damage occurring due to world cup losses). Typically, at risk are reputation and financial benefits.

There may also be some parallels with a military environment with the added complexity of an adversary with their plans, strategy, tactics, and desired reputational (along with other) benefits.

Phases

In a similar manner to large societal disasters, sporting tournaments have defined phases. There is a preparation phase comprising individual training, squad selection, planning, culture building, team training, warm-up games, analysis of the opposition, and relationship building - between a coach, captain, team, and support crew, plus of course with the fans (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020). In

sporting events, the preparation phase is more specific, as a world cup tournament is a known entity with a well-defined scope, threat, set of rules of engagement, and desired outcome.

There is an in-situ phase, and it is here that leadership is required to take a quantum step up. In national sport, there is the lure of the silver fern and a desire for competitors to test themselves against the best. However, this can be completely shattered in the heat of a crucial game. During the game, effective leadership has the greatest potential to make a difference (i.e., helping to manage the team–context interface). Here, leadership can occur in many different ways depending on the characteristics of the captain and team, along with contextual factors. Some captains primarily lead from the front, others display good tactical nous or lead through their team, knowing how to get the best out of them (Interviewee 10 – ex-Chair of a major New Zealand provincial sporting association, personal communication, September 30, 2020).

Post-event, there is a phase of analysis to derive lessons learned, a ceremony/recognition for the victors, and a period of rest and recuperation. Then planning commences for the next campaign.

Magnitude and probability of Consequences

New Zealanders take their sport seriously, and several sportspeople and their teams have been enshrined in folklore as a result of their sporting endeavours and results:

- a. Dean Barker and Team NZ losing the best of 17 America's Cup series in 2013 despite at one stage having an 8:1 lead ("America's Cup: Team NZ and USA asks public to leave Dean Barker alone," 2013).
- b. Grant Elliott hitting the penultimate ball for six to win the 2015 World Cup semi-final (Acharya, 2020).
- c. The All Blacks losing the 2007 World Cup semi-final (Napier, 2015).

In many respects, it depends on expectations. The context in this particular instance was:

It was our final pool game, and we needed to win that game to go through to the semi-finals. We were playing against an Australian side that was the host, the favourite, crowd favourite, all expectation was on them, absolutely winning against us easily. We hadn't performed particularly well in two out of our three previous games, so there was pressure on us to perform - to put out a complete performance. There was a lot of external interest from media, from other cricket commentators that we had a lot of potential but hadn't quite reached it. Yeah, the chances of us making it through were slim to none (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

The result was close, however, in the end, New Zealand lost by four runs. Not a tragedy as far as the public was concerned, but professionally bitterly disappointing for the players. They had failed to progress past the knockout stage.

Physical and psychosocial proximity

For cricket, this category occurs at three levels: self, team, and fans. There have been some sickening personal injuries and at least one prominent death (Lavalette, 2019). Indeed, a cricket ball coming at you at speeds approaching 150kph has the potential to cause significant physical and psychological injury. For those who play their cricket under the watchful eyes of the public, a loss of form can cause reputational risk and impact personal mental health. Of note here have been the recent instances of New Zealand sporting captains and players deciding to take 'time out, to reflect, recover, and re-energise' (McCabe, Peirce, Gorczynski, & Heron, 2021; van Royen, 2021).

Form of threat

In sport, the threat is two-pronged; those menaces occurring as part of the game (physical and psychological) and those by-products arising from personal or team failure. Fans of those

teams expected to win can be particularly vicious, summed up by the recent retort by the All-Blacks captain following a run of substandard form.

I think we have got amazing fans, but we have also got some pretty brutal ones. With that, you have just got to remind yourself that, hey, they might like to think they know a lot about the game of rugby but really, they don't. . . .To me, if I am having my leadership questioned in the public, people's opinions that really matter to me are my teammates and my coaches, who I work with every single day. I have got a lot of confidence from them we are on the right track. . . .For us as a team, it certainly does not help if we are spending our time online reading hateful, disrespectful comments ("Sam Cane: "Brutal" All Black fans don't know as much about rugby as they think," 2020).

Of the psychological impact, there is not much hard data on mental illness among past and present cricket players. However, what there is, indicates that English cricketers (past and present) are more likely to experience anxiety and depression than members of the public (McCabe et al., 2021). Other studies indicated a slightly higher prevalence amongst women cricketers than men (McCabe et al., 2021).

Another study examined the autobiographies of twelve international cricket captains and identified seven general areas for stress: the demands of multiple roles, team stressors, selection decisions, interactions with staff and other people, interactions with players, scrutiny/criticism from the media, and extreme situations. This last category referred to deeply troubling issues that included complex ethical judgements, security concerns (e.g., touring Pakistan), dealing with the death of close team-mates, team scandals, and risk versus reward - a key player playing notwithstanding concussion concerns (Smith, Arnold, & Thelwell, 2018)

Intensifiers

It is one thing to practice batting in the nets, hitting sixes over imaginary boundaries.

Repeating the batting experience in a high-pressure (must win) match on the opposition's home ground is another matter. It may be that four quick wickets have fallen, the crowd is braying for blood, there is a spin bowler that no one has seen before who has an unpickable wrong'un, the pitch is holding up a little, or your partner has an impediment and can't run fluently. The concept of intensifiers amping the level of extremeness as proposed by Hannah et al. (2009) appears equally applicable on the sports field, albeit the adversary generates many of the intensifiers (Interviewee 10 - ex-Chair of a major New Zealand provincial sporting association, personal communication, September 30, 2020). Examples include:

Time

Analysis and decision-making occur faster in a T20 cricket game as distinct from a five-day test match. "There was a great example in the game yesterday where, we were 5 minutes down, about halfway through our bowling innings, so I guess you can get real-time pressure from the umpires that if we don't finish, we get penalised" (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

In rugby, a team with a rush defence allows less time for the opposition to organise and execute an effective attack (C. Wilson, 2019).

Space

Cricket fielding positions (Woolmer, Noakes, & Moffett, 2008) and rugby defensive lines are designed to remove and shut down options.

Complexity

Cricket batters are faced with having to make decisions relating to the approach of the ball. Will it swing (and which way)? Will it seam (again which way)? What height will it bounce (based on the pitch conditions, the length of the delivery, its speed, and the height and

delivery stance of the bowler)? (Interviewee 10 - ex-Chair of a major New Zealand provincial sporting association, personal communication, September 30, 2020).

In rugby, a change of angles, cut-out passes ("Cut Out Pass," n.d.), dummy runners, and double-arounds can obscure the intent of an attacking ploy.

Psychological pressure

This type of pressure can occur via several mechanisms, sometimes linked to the intensifiers above. In cricket, this could be a continual failure for the batter to penetrate the field, repeatedly missing the ball, walking out to bat on a hat-trick ball, or being struck during a delivery (Interviewee 10 - ex-Chair of a major New Zealand provincial sporting association, personal communication, September 30, 2020). It could be facing someone who bowls with abnormal pace, or a lack of form - it is hard if you are a captain that leads from the front (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020), questionable umpire decisions, pressure from media and fans (often related to expectation), or the run rate required to win growing to excessive levels.

Lack of Information

A fresh pitch and not knowing how it will play until you are into the game. At the toss, should you bat or bowl? What is the average winning score on this ground? What wind changes/impact can we expect? Or simply a lack of information on members of the opposition.

We were playing against the West Indies team in the World Cup and they brought out a batter at No three that we had no idea about. No knowledge of where they hit the ball, their strengths and weaknesses, and they ended up playing a match-winning innings, and we didn't know how to counter it as we hadn't done any planning on it because all the vision, we had looked at from all the scouting, they hadn't even featured (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

Attenuators

Those resources that may be applied to ameliorate the context are as follows. Given the contest between adversaries, many attenuators are the same as those intensifiers faced, only applied to the opposition. This approach is usually through a planned strategy or tactics.

Strategy/tactics

Space

Batters may move laterally, advance, or move deeper in their crease to open up different scoring arcs. Switch hits open up the opposite side of the field. Bowlers target specific lengths or lines to complement field placements (Woolmer et al., 2008).

Time

The fielding team may move quickly into position for the next over to reduce the time available for the batters to confer during overs. Spinners get through their overs quickly, advancing the game (and corresponding run rates), sometimes without the batter realising (Interviewee 10 - ex-Chair of a major New Zealand provincial sporting association, personal communication, September 30, 2020).

Complexity

A simple example of this is captains rotating bowlers at shorter intervals during T20 matches, so batters are unable to settle.

Psychological pressure

Sport is about besting an opposition (both team and individual) by whatever means are within the rules.

Cricket is tricky, I guess you could bowl slow, wide, and set an off-side field, to try and nullify their scoring ability. It is pretty hard to do though. I think for us, really it is about matchups which again, which goes back to that preparation and planning, in terms of

what are our strengths and what do our strengths match against their weaknesses. So, that might help me to determine who I might bowl at certain times and to which batter. Because if I can get someone who doesn't like inswing bowlers, and I can bowl an inswing bowler, I can match that up (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

Winning begets winners, and naturally, the opposite occurs for those on the losing end. Kanter (2012) states, that winning leads to positive emotions, which, in turn, improves performance, promotes better learning, and facilitates belonging. Winning also enhances sponsorship and the level of resourcing that comes with that, allows sportspeople to go and express themselves without overanalysing their game, and facilitates sustainable higher performance.

Some players acquire/develop coping mechanisms (suited to their needs) to counter psychological pressure. Justin Langer (ex-Australian opening bat and now Australian coach) and John Wright (ex-NZ opening batter and past coach of New Zealand and India) adopted transcendental meditation, while Bob Willis, the English fast bowler and captain, turned to hypnotherapy (Tunncliffe, 2020).

Focus, purpose, and a calm demeanour.

Team members look to their leader for confidence and direction during the cloud of ambiguity.

“You can still have all the plans and knowledge, and everything else and then stuff can just happen and you just have to be able to ride it and be able to stay focused and calm and trust your gut” (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

Response of adaptive leadership

The most important thing is that all players just want to know their role. They want clarity about what they are trying to do and how you want them to do it. Some need more than others but, I guess that is your role as a leader to know what each player wants and how they want it delivered. The coach as well is very important in that (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

The broader leadership function in this instance is shared between several people: captain and coach, with a team around them comprising manager, media manager, along with a (player) senior leadership team comprising targeted key members of the squad. Interestingly for the sporting example examined, this last group includes one of the younger players and another who did not always make the playing team. Between this group of people, they carry out the following CIMS style functions: intelligence, planning, media management, operations, logistics, welfare and development, and culture. In addition to the touring group, the national sporting body and Players' Association provide a number of additional wrap-around functions (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

The team captain is very much a (self-described) "leading from the front type of captain" whose personal performance is a significant factor in team success (or otherwise). The captain has ultimate responsibility on the field. This situation enables decisions to be made either in response or in anticipation of both context and the opposition. Notwithstanding this, broad plans are developed, and these are then adapted as dictated by the state of the game. In this respect, sport has much in common with other sectors involved in extreme contexts.

Analysis Summary

A summary of those factors highlighted from examining Kaikōura, Covid-19 events, and the sporting example against the Hannah et al. model (2009, p. 899) is provided in the table below.

The similarities, differences, and instances where a factor may be both an attenuator and intensifier (e.g., Messaging/information) are of interest.

Framework Components	Kaikōura	Covid-19	Sporting example
Phases			
Preparation	<ul style="list-style-type: none"> • Known risk. • Previously exercised. • Immediate impact. 	<ul style="list-style-type: none"> • Known risk. • Previously exercised. • Slow, gradual approach. 	<ul style="list-style-type: none"> • Known challenge. • Previous match record details. • Warm-up games. • Average form leading into match.
In situ	<ul style="list-style-type: none"> • Multiple concurrent, consecutive, and sometimes conflicting risks. • High velocity and intensity for those affected. • Public and officials have some experience in a similar context. • People receptive to direction • Leadership personnel resources stretched. • Agile approach to identify and isolate hazard areas and then apply mitigation. 	<ul style="list-style-type: none"> • Constantly evolving. • Primary risk with 2nd and 3rd order (conflicting) consequences. • Lower intensity but much greater and more comprehensive impact. • Unfamiliar experience for most people. • Certain comfort in leadership when compared with situation overseas. • Materiel and process stress. • Macro situation managed intensively. 	<ul style="list-style-type: none"> • Must win match. • Playing against an Australian side that was the host, the favourite, crowd favourite, all expectation was on them, absolutely winning, albeit it, it was a must-win match for Australia also. • Steady performance by NZ top-order batters, with lower order failing to sustain the pace. • NZ spinners more economical and took 4 of 5 wickets to fall.

	<ul style="list-style-type: none"> • Intent to concurrently balance safety and economic/social well-being. • Initially, insufficient data to make best decisions. 	<ul style="list-style-type: none"> • Strategy to get ahead and eliminate threat. • Intent to concurrently balance health and social well-being, followed by economic recovery. • Initially, insufficient data and experience of outcomes to understand where optimal decision-making should be applied. 	
Post-event	Lingering issues around infrastructural (building) risk and impact on public safety, particularly for future earthquakes.	<ul style="list-style-type: none"> • Longer-term major economic and psychosocial risks. • Uncertainty of path out the other side of pandemic and Govt. strategy to achieve this. 	Post-series review. With lessons learned feeding future plans.
Magnitude and Probability of Consequences	<ul style="list-style-type: none"> • (In Wellington) surprisingly impactful given the distance to epicentre. • Elevated risk/anxiety environment requiring confidence-building measures. • High confidence that this will occur again. 	<ul style="list-style-type: none"> • Global and epochal. • Maybe a total game-changer for future society, however, officials focusing on here and now. 	<ul style="list-style-type: none"> • Infrequent death and injury. • Mental (and well-being) plus financial consequences for players.
Physical and Psychosocial Proximity	<ul style="list-style-type: none"> • Shared physical proximity to risk. 	<ul style="list-style-type: none"> • Higher level of risk by leadership and essential workers. 	<ul style="list-style-type: none"> • Personal and team (collective)

	<ul style="list-style-type: none"> • Spectrum of actual risk. • Directive model with shared responsibility. 	<ul style="list-style-type: none"> • Directive intent-based control with shared responsibility. 	
Form of Threat	<p>Multi-risk environment with consequences:</p> <ul style="list-style-type: none"> • Physical • Psycho-social • Economic • Material 	<p>Primarily health risk with multiple consequences:</p> <ul style="list-style-type: none"> • Physical • Psychological • Economic • Social 	<ul style="list-style-type: none"> • Physical • Psychological • Both with 2nd/3rd order consequences (e.g., Reputation, mental health)
Attenuators	<ul style="list-style-type: none"> • Strategy. • Previous experience – Leadership and public. • Messaging. • Shared responsibility. • Serendipity. 	<ul style="list-style-type: none"> • Strategy. • Simple Messaging. • Shared responsibility. • Decisiveness. • Cultural factors. • Willingness to apply funding. 	<ul style="list-style-type: none"> • Strategy/tactics (including time, complexity, and space). • Psychological pressure.
Intensifiers	<ul style="list-style-type: none"> • Time. • Complexity. • Clarity of Information. • Situational Awareness. • High Profile Comment. • Extraordinary Interest. • Cognitive Bias. • Staff Focus. 	<ul style="list-style-type: none"> • Time. • Complexity. • Clarity of Information. • Societal Norms. 	<ul style="list-style-type: none"> • Time. • Complexity. • Lack of information. • Space. • Psychological pressure. • Temperature.
Response of Adaptive Leadership	<ul style="list-style-type: none"> • Initial centralised decision-making by established but not so well-known authorities. • Shared responsibility model. • Public accepting of direction. 	<ul style="list-style-type: none"> • Initial centralised decision-making by known and established authorities. • Gradual empowerment of others. • Public accepting of direction for prolonged period. 	<ul style="list-style-type: none"> • Dispersed model in preparatory phase, centralised during the game. • Model provides for individual responsibility by players. • Captain and players need to adapt to demands

	<ul style="list-style-type: none"> • Kaikōura saw the value of the Community Emergency Hub concept that had formed part of WREMO's community preparedness initiatives. 	<ul style="list-style-type: none"> • Was public mood a factor in decision to transition to level 1? 	of the game (contextual intensifiers).
--	---	--	--

Table 24 Factors highlighted in the Hannah Model

Comparison with further case studies

As previously stated, there was considered merit in comparing the critical components identified earlier in the case studies with a wider selection of scenarios. This might add weight to any perceived universalities. In each of these cases, while fewer leaders and participants were interviewed (between two and nine people versus circa 20 for each of the two primary case studies), it must be remembered that the research unit of analysis was people in roles impacted by the event (page 48) and not the event itself. Thus, the additional input was seen as enriching the findings. These additional scenarios included:

- a. The Kaikōura earthquake, as experienced outside of Wellington by another CDEM Group.
- b. The Christchurch earthquakes of 2010 and 2011.
- c. The July and August 2013 Cook Strait/Seddon series of earthquakes.
- d. The June 2013 Wellington storm, where winds peaked at over two hundred kph.
- e. The March 2019 counter-terrorism operations in Christchurch.
- f. Australian State Emergency Service (SES) experiences (not event-specific).
- g. Military conflict operations— including military support for civil power and military/civil actions in a conflict zone (including Timor Leste, Somalia, and Lebanon).

The Kaikōura earthquake as experienced by another CDEM Group.

Context

In Wellington, the primary response focus was on public safety and confidence and the validation and restoration of urban infrastructure (buildings, transport infrastructure), all in a high-density environment. Elsewhere, the key focus was on people safety and building validation (in a lower density environment), plus geotechnical matters with multiple landslips and dams created due to the ruptures. A significant second-order consequence was bridging the remoteness of settlements as normal supply chains had been disrupted, plus repatriation of tourists stranded in the vicinity (Interviewee 30 - Controller, personal communication, November 5, 2020).

Consistencies

Many of the key intensifiers experienced by the controller were similar – gaining situational awareness, lack of operations centre staff, compression of time, multiple areas of focus (complexity), actual and potential threats to the population, plus clarity of information. Attenuators were similar: strategy, Civil Defence’s standing in the community because of recent earthquake exposure, messaging, shared responsibility, and luck (as bad as things were, things could have been worse). Again, the controller was managing the contextual factors and not advancing a higher-level purpose. A recovery team would have driven this outcome.

Variations

Key differences from the circumstances in Wellington were the longer-term nature of disruptions to the supply chain, communication challenges between the coordination centre and epicentre of damage, and more intense media and political focus.

The Christchurch earthquakes of 2010 and 2011

Context

Two series of earthquakes hit Christchurch, with the defining ruptures occurring on 4 September 2010 (7.1Mw) and 22 February 2011 (6.2Mw). Despite the significant impact of the September earthquake, it is the February 2011 earthquake that gained notoriety, with 185 deaths, in addition to the considerable damage that occurred - buildings, infrastructural services, liquefaction impact (Interviewee 9 – Controller, personal communication, March 8, 2020).

Consistencies

Many of the broad challenges, intensifiers, and attenuators were similar to Wellington (time, space, complexity, response effort coordinated by largely lay-staff, difficulty gaining accurate situational awareness, overload – with 6000 111 calls received in the first few hours for the February rupture), with some significant differences. Again, the response effort had no mandate to consider matters beyond managing the contextual issues. Christchurch later embarked on a massive regeneration programme; however, this was managed by a separate authority.

Variations

The nature and impact of the rupture were different (more significant vertical uplift and acceleration), closer proximity, a tighter epicentre of damage, national declaration, more significant damage, loss of life, and a non-local controller. However, this was the first major urban earthquake since 1931 (with Napier part of the nation's history rather than a contemporary event). While there had been planning for a major earthquake, this had focused on a Wellington-based scenario. For everyone involved, Christchurch was a step into the unknown. Christchurch saw the emergence of the citizen armies (primarily students and farmers) to assist response efforts.

The July and August 2013 Cook Strait/Seddon earthquakes

Context

The two most significant earthquakes were roughly a month apart in 2013. The first major rupture occurred on a Sunday evening and the second, approximately a month later, on a Friday afternoon. The Sunday earthquake resulted in significant façade damage occurring in the city CBD, fortuitous with few people in the CBD at the time. Several buildings suffered structural damage and remained vacant after the shakes. Several design flaws were discovered in some buildings, and this initiated a programme of retrofitting (Interviewee 1 - Controller, personal communication, September 30, 2019).

Consistencies

The intensifiers experienced (time, space, complexity, poor situational awareness exacerbated by the onfall of darkness) and attenuators (buying time by discouraging access to the CBD) applied were in many respects similar to those in the Kaikōura series of events, with some differences.

Variations

The earthquakes (albeit accompanied by multiple significant aftershocks) were a revelation for Wellington residents and organisations. Many found their business continuity plans wanting. Many of the buildings identified as earthquake-prone after this series of earthquakes were largely unaffected by the ruptures experienced during Kaikōura. Victoria University students initiated their student army to assist. However, the uptake by residents was minimal (this did not occur in the same manner during Kaikōura as the event coincided with student exams).

The June 2013 Wellington storm

Context

Categorised as an extratropical cyclone, much of the Wellington region experienced high winds from 20-22 June 2013, with a peak speed of over two hundred kph registering at Mount Kaukau (Interviewee 1 - Controller, personal communication, September 30, 2019).

Consistencies

Many of the intensifiers experienced were similar to those experienced during Kaikōura (time, space, complexity, clarity of information, plus overload). The Fire service received almost three thousand calls in 24 hours resulting in nearly two thousand jobs. This load was well beyond what they could respond to, so some lower-tier jobs were assigned via Civil Defence to Response Teams.

Variations

With a primary focus on public safety, messaging centred on people sheltering in place until the winds subsided. Once this occurred, people were free to go about their business with a minimum of risk. The winds resulted in significant power disruption (30,000 premises were initially affected with some people without power for up to 10 days). Difficulties in determining the full extent of outages resulted in door-knocking programmes by the councils affected.

The March 2019 counter-terrorism operations in Christchurch

Context

The 15 March 2019 event in Christchurch was of a type and magnitude unlike anything experienced in modern New Zealand. It was a homicide in the context of a national security/counter-terrorism threat. We now know it was an attack carried out by a single gunman who entered two mosques, killing 51 people and injuring a further 40 (not to mention the psycho-social cost). The situation at the time was not as clear, with initial reports indicating that they may be dealing with multiple shooters at up to 12 sites. These included the local hospital – people turning up there with gunshot wounds led others to report that these had occurred on site. The perpetrator was eventually apprehended due to swarm intelligence, good coordination, and alert, courageous officers (Interviewee 24 - Commander, personal communication, September 21, 2020).

Consistencies

Again, the usual intensifiers were in play: time, space, distance, volume, and clarity of information, with some differences.

Variations

What occurred was a criminal event, and so in addition to managing contextual matters at the time, there was also considerable after-event action required to secure a criminal prosecution. The situation at the time was not assisted by some members of the public going rogue (an individual dressed in camouflage and carrying a weapon, deciding to uplift his children from a school and another breaching a Corden with a loaded firearm). The event also displayed the perverse power of social media, with the perpetrator streaming the event as it occurred. As distinct from those arising from more natural phenomena, this event featured an adversary who positioned his actions in a continuum, building on those who had gone before him and attempting to motivate future events through his broadcast actions and manifesto. As a result, (separate) authorities and community groups have devoted considerable effort to thwart this. This event saw the establishment of a purpose beyond the immediate response mission.

Australian SES experiences (not event-specific)

Context

Working as part of the State Emergency Service (SES) volunteers, led or participated in approximately four hundred operations ranging from storm events, flooding, search and rescue, and bush fire support (Interviewee 5 - Australian Emergency Manager, personal communication, November 18, 2019).

Consistencies

Response services use AIIMS, the Australian version of New Zealand's CIMS.

Variations

Similar structures to New Zealand but with an additional "State" layer, bringing the advantages and challenges of a federal system. The SES appears a more formalised and comprehensive network of volunteers than exists in New Zealand.

Military conflict operations— including military support for civil power.

<p>Context</p> <ul style="list-style-type: none"> • Set in a continuum of conflict, in the 1980s and 1990s, Somalia was involved in a border war with neighbouring Ethiopia, with events escalating into civil war; the country eventually being declared a failed state with multiple armed groups vying for control and the inevitable tragic consequences for the general population. The NZDF deployed a supply platoon in the 1990s in support of UN operations in the country (Interviewee 7 – ex-Military Officer in a conflict zone, personal communication, November 11, 2019). • In the late 1980s, Lebanon was amidst a multifaceted civil War with significant casualties and a million-plus people exiting the country as refugees (1975-1990) (Interviewee 20 – Foreign Diplomat in a conflict zone, personal communication, August 20, 2020). • Set within a backdrop of gaining independence from Indonesia, Timor-Leste descended into armed conflict with multiple paramilitary groups attacking and destabilising the general population. The NZDF deployed as part of an Australian led international peacekeeping force to end the violence (Interviewee 14 - ex SAS Commander, personal communication, July 29, 2020).
<p>Consistencies</p> <p>The usual context intensifiers experienced in other extreme contexts apply, including time, space, complexity, volume, and situational awareness, with a higher degree of personal risk.</p>
<p>Variations</p> <p>In conflict, in addition to contextual impact, there is an adversary or, in these instances, adversaries. In each of these situations, the people deployed to the region had a purpose or mission as well as a requirement to meet the challenges of the context. Attenuators appear to be applied in support of fulfilling the mission rather than focusing on addressing contextual matters for the benefit of the public.</p>

Enhancements to components of the Hannah model

Of interest are those key factors not catered for in the original model or features evident in one form of extreme context but not in others. Should they be absent? Or are people too immersed in the context and merely failing to see that particular feature?

Following analysis, and comparison with the wider selection of scenarios, the following critical factors were highlighted from the initial two case studies as well as the sporting example.

Framework Components	Kaikōura	Covid-19	Cricket
Purpose	Response teams purely there to manage contextual factors. Longer-term issues managed by Recovery teams integrated as part of council/government programmes – some planned, some opportunistic - e.g., Resilience building initiatives, remote working practices (this latter category of immense value during Covid)	Response agencies there to manage the health/economic/well-being interface. If there is a longer-term recovery path, then this has not been well articulated. Even the 2020 election was labelled by government as the Covid—election rather than being sold on significant future direction	<ul style="list-style-type: none"> • To win tournament, • Development goals - to play well as a team/individual and to take a step up from previous rankings
Public	Public satisfaction largely driven by personal impact. Relatively good public levels of support for direction provided. No planned level of public needs analysis	There was the challenge of immediately solving those community problems that had previously been unsolvable (e.g., emergency housing). Some needs analysis undertaken. Significant resource made available as part of a push strategy.	Fan satisfaction an indirect by-product of success
Significant Trade-offs (risk v opportunity)	Preservation of (longer-term) economic and social well-being versus (shorter-term) public safety.	Balancing of health and well-being (psychosocial, economic) goals. Interestingly, the only public (reported) unit of success appeared to be Covid infections/deaths.	More tactical (runs versus wickets, plus those risks associated with particular shots/deliveries)

Adversary	Not really applicable. Operation focused on blunting the impact of a natural event along with flow-on implications	Initially not applicable however as the response operation progressed, certain opposition groups emerged that required attention	Defeating an adversary is at the heart of each sporting encounter
-----------	--	--	---

Table 25 Factors additional to Hannah Model

The emergence of these factors, as potential additions to the criteria included in the Hannah et al. (2009) typology, warranted some further analysis and discussion, as follows:

Purpose

In sport and combat, there is a broader purpose (Interviewee 10 - ex-Senior NZDF Commander and ex-Chair of a major New Zealand sporting association, personal communication, September 30, 2020). This word (purpose) is intended to include a collective, future state, desired state or effect, mission, or vision. This purpose may be as simple as, winning the tournament or defeating the adversary. During extreme contexts such as an earthquake or pandemic, the dynamic is different. A response leader and team are there to blunt the context, appropriately managing the intensifier/attenuator interface. They do not necessarily have the mandate to go further (this is the role of recovery entities as determined by governance bodies). Regardless of how effective the response operation is, society or the community affected will invariably be worse off (initially) as a result of the event. In these instances, the purpose component is managed as part of recovery – e.g., building a new (modern, vibrant) Christchurch, not simply carting away the rubble of the destroyed city. More on this in the following chapters. Using the Covid scenario, at the time of the time stamp (31 July 2021), it was not clear what the future state looked like or indeed how this might be achieved. Early in the pandemic response, this was imagined as Covid elimination, however, this evolved as the virus and its consequences subsequently evolved.

People

The commentary commencing page 96 examines the criticality of people as a factor during extreme contexts. The model on page 109 shows that the people aspect occurs at different levels – internal (response staff) and external, response partners and the general public. This situation also occurs in sport, albeit to a lesser extent (e.g., managing the needs of the fans) and in military conflict to a greater extent engaging with the wider impacted population and not simply those under command (winning the war as well as the subsequent peace). This latter feature (also linked to the previous paragraph on purpose) is possibly more challenging than the initial combat objectives. A good example of what is meant here is the 2003 Iraqi invasion, where Saddam Hussein's forces were defeated, however, this did not lead to a marked increase in social stability in that country (Allawi, 2007).

Risk versus Opportunity

One of the critical features of the first two case studies and to a lesser extent in the sporting scenario was the conundrum posed by the need to balance risk against opportunity. For both Kaikōura and Covid-19, one of the critical factors was determining and implementing a balanced approach that met the needs of multiple and sometimes conflicting threats/priorities. During Kaikōura, it was (immediate) public safety versus (longer-term) collective economic and social well-being. For Covid-19, it was health/safety (including health system resilience) versus economic and social well-being. This situation was particularly evident throughout the Covid-19 pandemic, with various countries using different strategies complete with varying combinations (length and degree) of lockdown. The various strategies employed, however, were but one factor influencing success; the others being (wider) leadership, context, attenuators, intensifiers, and one other (not included in the Hannah typology), the mood of the public or those being led.

During the sporting scenario, the risk versus opportunity appeared more limited to team selections and those strategies and tactics employed throughout the game.

Note: While prominence is given to this factor during this particular phase of the analysis, it doesn't feature as an entity on its own (see diagram on page 230), but as a critical part of leadership. Discussion on risk versus opportunity continues in Chapters eight and nine.

Adversary

In both combat and sport, there is an adversary. Their actions manifest themselves at two levels: as an impediment to the purpose/mission and impacting the context. Thus, in cricket, the players must defeat their adversary (score more runs) and manage the contextual impact of intensifiers. This last requirement may involve (keeping pace with the run rate, ignoring the fact that two quick wickets have just fallen, accessing sides of the ground that are shored up by fielding placements). In a military context, combatants are required to achieve a mission which may need to be undertaken, under fire, with its commensurate physical and psychological risks.

There doesn't appear to be an equivalent in emergency management, as the threat is not bound by human rationality. For example, Kaikōura's impact on Wellington comprised concurrent earthquake, tsunami, and storm, closely followed by heavy rain, floods, slips, and a mini-tornado, with a swarm of bees coming into Lower Hutt's CBD for good measure. Some of these events were inter-related (earthquake, slips, tsunami). Others were independent random acts. Similarly, Covid could not be considered a rational adversary, albeit its impact resulted in adversaries, e.g., Covid hoax promoters, militant civil liberty protestors, and anti-vaccination protestors). This doesn't necessarily make the emergency management challenge any easier, just different. There is no option to fix bayonets and charge an earthquake, albeit there are other more obscure similarities between warfare and a natural event (e.g., an earthquake). Both involve the transfer/release of extraordinary amounts of energy.

In the Vietnam war alone, the United States delivered to Indo-China enough energy to displace 3.4 billion cubic yards of earth – ten times the amount dug out for the canals of Suez and Panama combined. . . . In fact, apart from a little slum-clearance this abundance of energy was wasted – consumed in the making of 26 million craters, the laying waste of 20,000 square kilometres of forest, and the destruction of enough crops to feed two million people for a year (Dixon, 1976, pp. 27-28).

The 2016 Kaikōura rupture energy release figures were similarly impressive.

Around 32 quadrillion joules of energy was released in two minutes during the magnitude 7.8 quake - the equivalent of about eight million tonnes of TNT, or detonating 400 atomic bombs. "To put that into perspective, the same amount of energy could power the city of Christchurch for three years - or every home in the South Island for a year - or the whole of residential New Zealand for three months," (as cited in Morton, 2016).

Context

In addition to the factors discussed above, the findings from Chapter four would indicate that history (in terms of public memory, outcomes experienced, lessons learned, and perceptions – real or otherwise) should be added to the contextual components identified in the Hannah et al. (2009) typology. As stated, these included the dimension of time (pre, in situ, and post), magnitude and probability of consequences, proximity (physical and psycho-social distance, plus psychological proximity and teams), and the form of the threat.

Questions

Noting the differences and similarities between the various scenarios analysed above and returning the spotlight to leadership, many successful sportspeople (certainly male ones) have had their sporting careers documented as part of an autobiography or biography (e.g., McCaw, Reid, Snell, Adams, to mention but a few). The same applies to significant military

commanders, particularly those involved in combat operations (including Freyberg, Kippenberger, and Malone). As previously indicated, there appears to be less written about leadership involved in those response operations arising from extreme environmental contexts (in fact, one controller remarked that one mark of success was that nobody remembered you at the end of a response). That begs the question, does society value the efforts of these people and do operational leaders during extreme contexts suffer the same mental health issues as, say, cricket captains? Indeed, of the seven areas for stress identified by Smith et al. (2018); the demands of multiple roles, team stressors, selection decisions, interactions with staff and other people, interactions with players, scrutiny/criticism from the media, and extreme situations, all appeared to apply to emergency management controllers; a candidate for further research perhaps?

Chapter Summary

This chapter examined the efficacy of the Hannah et al. (2009) model for analysing extreme contexts, with the following key findings:

- The typology proved an especially valuable starting point for promoting a greater understanding of those issues and challenges experienced within extreme contexts and led to a better understanding of the multitude of forces in play during such complex and challenging times.
- By examining the model across various contexts, several critical components have been identified as potential enhancements, factors that are masked in certain circumstances.

This finding would see the typology enhanced as follows:

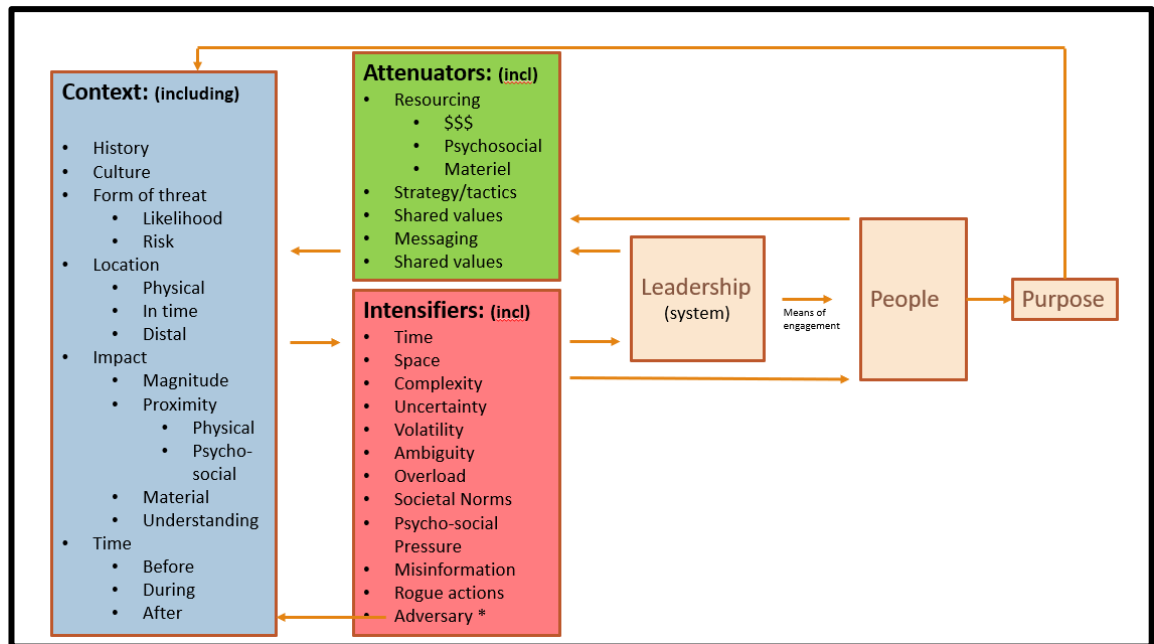


Figure 41 Leadership Capstan - Contextual Layer

- Differences above include an enhanced set of contextual factors, attenuators, and intensifiers, plus, acknowledgement of leadership as a system, with the addition of people and purpose as key components of the typology. These findings are developed further in Chapter 7.
- The analysis also highlights the need for several leadership capabilities. These have been incorporated in Chapter eight.

Chapter 7: Leadership Capstan

Introduction

This chapter proposes a generic model that builds on the extreme context typology of Hannah et al. (2009) as modified in Figure 41, to include those factors identified as findings of the previous chapters (literature, leadership system, exercising authority, and case study analyses). The resulting model and commentary are intended to explain the importance of the components identified as well as the relationships between each. This approach is crucial to reinforce those features that cater for the dynamism present during extreme contexts.

Aristotle's Rhetoric

The contents of the chapter on exercising authority raised the importance of establishing credibility as an essential antecedent to exercising authority. Thinking more laterally, and going much further back in time, Aristotle wrote a doctrinal dialogue known as Aristotle's Rhetoric (to distinguish it from later efforts by Roman scholars, namely Cicero and Quintilian) (Rapp, 2010). The document codified persuasion between two or more parties (hence its potential relevance to leadership). The concepts espoused in those documents have since been adapted to shape engagement in, amongst other things, politics, communications, and marketing. With the concept of persuasion being at the heart of democracy, Aristotle produced a model of rhetoric comprising three key components and further articulated their relationship with other associated factors (Rapp, 2010). While his original dialogue focuses on public speech, categorising this as deliberative (for consideration), judicial (enabling the administration of justice), or epideictic (giving praise or blame), it is the more physical components that are of relevance.

Three Means of Persuasion

According to Rapp (2010), at the heart of Aristotle's model are the three means of persuasion: the character of the speaker, subject and content, and the intended audience. These he describes as follows:

Ethos

This concept is the means of establishing the speaker's credentials or authority, which may occur through several means:

- a. Practical intelligence (phronesis), being notable for or displaying proficiency in their field of expertise.
- b. Being of good character or recommended by a reputable source.
- c. Exhibiting goodwill.

Pathos

The impact of the message varies depending on the emotional state of the audience.

Emotions can either attenuate or intensify the effect of the message. While emotions are internal to a person, they are driven by external factors or context. In this way, pathos is most effective when the orator strikes harmony with the value set of the audience.

Logos

Logos is the argument itself or the message. To Aristotle, the strength of the argument is often enhanced through inductive or deductive reasoning.

Other factors

Three other factors that Aristotle either alludes to or features prominently without a category are Kairos (when conditions are conducive for a successful outcome or the decisive moment for action), symfrazomena (context), and telos (the aim or purpose). These are the vital, contextual aspects that influence the three means of persuasion, thereby completing the

system. Note: the model produced is the (thesis) author's adaption of the concepts espoused in Aristotle's discourse. While there are dangers to converting an ancient dialogue to a modern diagram (resulting in the intent being lost, diluted, or arbitrarily modified), such a model does allow comparison and collation with other system models.

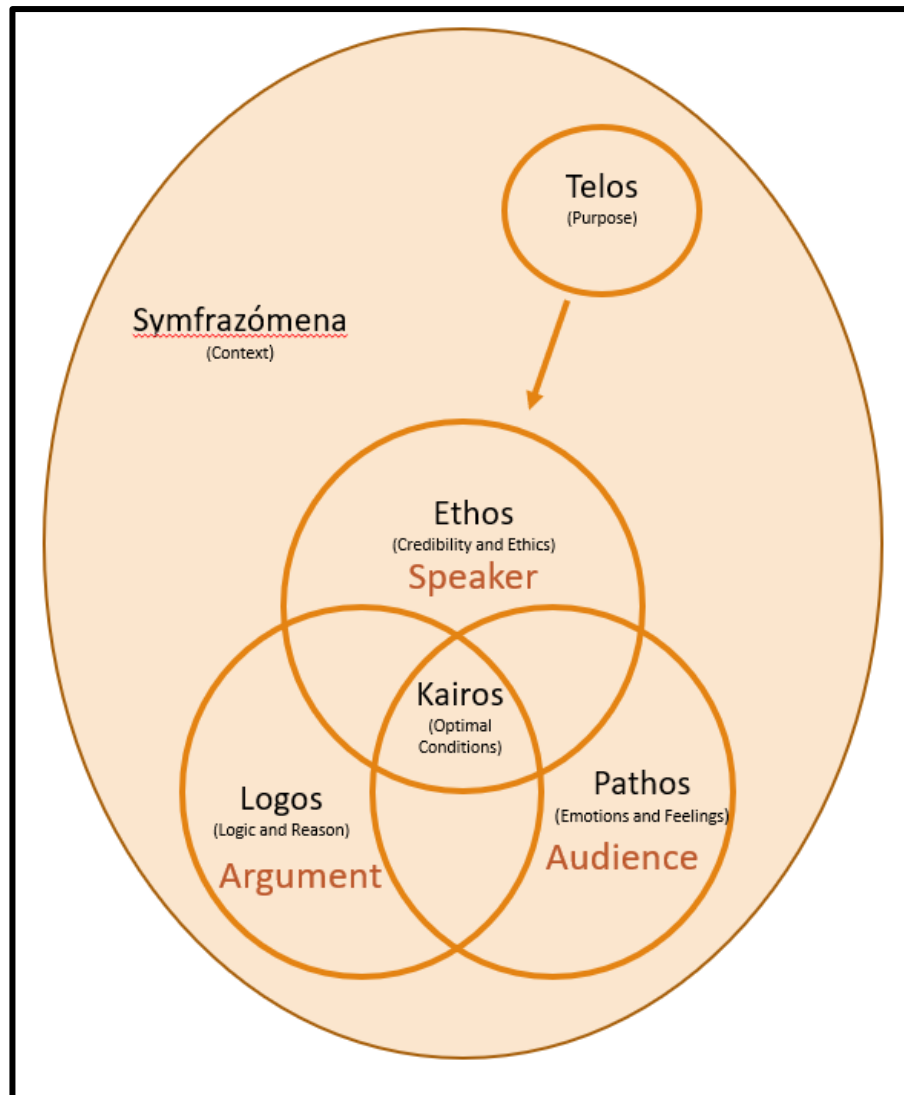


Figure 42 Interpretation of Aristotle's Rhetoric (Modes of Persuasion)

Relevance to Leadership

The parallels with leadership are worth examining further. In their book, *The Nature of Leadership*, Antonakis & Day (2018, p. 275) provide a definition of leadership that includes all

these factors, “Leadership is a process that involves *personal characteristics of the leaders*, the *interaction between the leader and follower(s)*, and *situational pressures*” (emphasis added).

Substitute the word leadership for rhetoric and supplement with those factors related to leadership in the model by Hannah et al. (2009) on page 17 and the enhancements on page 230; this approach may prove a valuable stepping-off point for a system model of leadership in extreme contexts, perhaps for leadership itself. Such an alternative approach to leadership grounded in ancient Greek times would also be consistent with the leadership concepts promoted by Ladkin (2010), although the basis for her proposition is based on philosophical roots – “What is my purpose? How do I balance my own needs with those of others?” (p. 7).

Dramatically simplifying the systems diagram on page 109, and adding the findings from Chapters two, four, five, and six, and then overlaying them on the critical features of Figure 42, would produce a new model as follows:

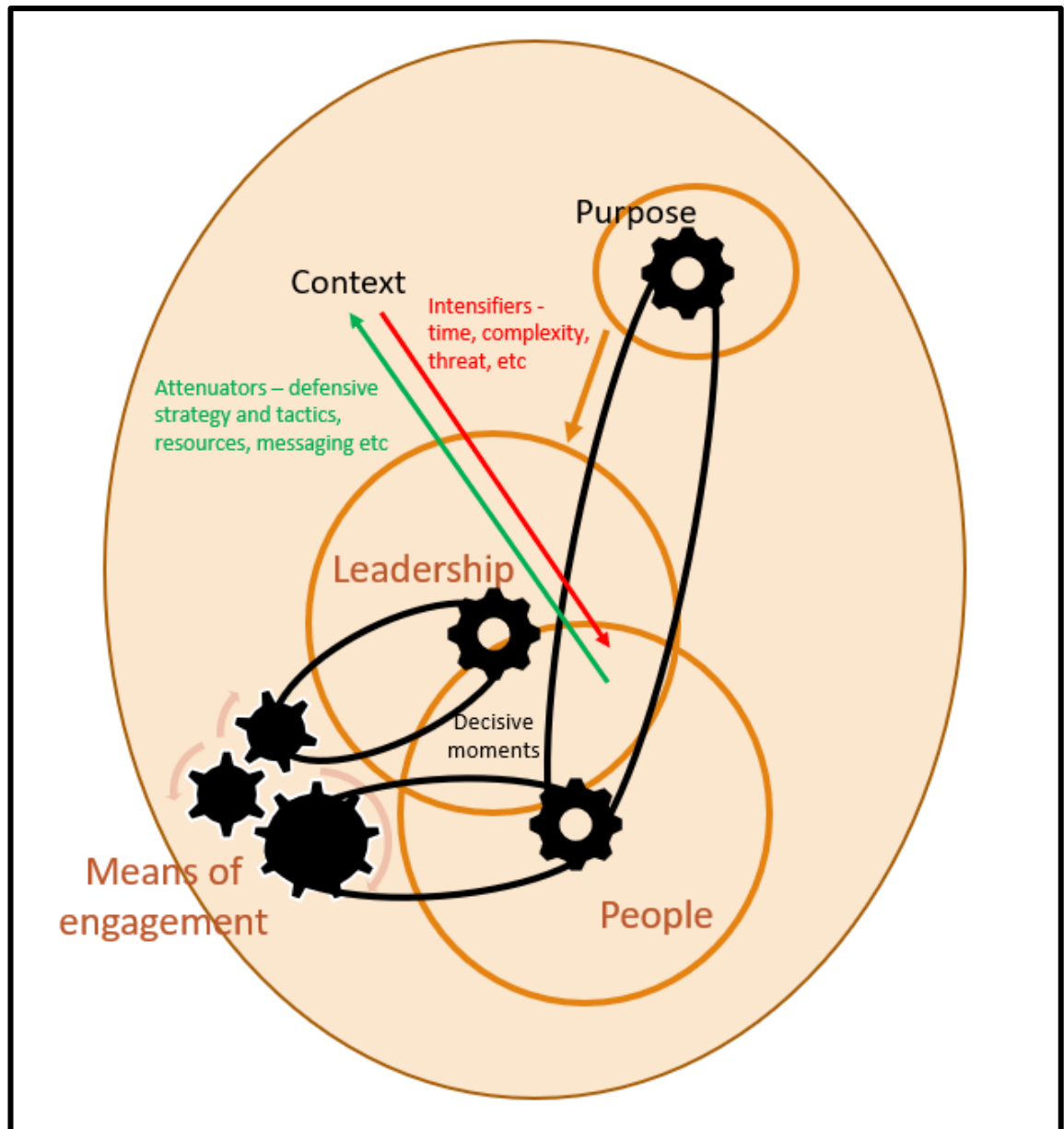


Figure 43 The Leadership Capstan

While the model may not be as cultured as standard rule-based (leadership) theory, it is worth considering the key features further.

The Leadership Capstan

So named, because of the interconnected components and the model existing (or should exist) to leverage an intended outcome (purpose), the prototype capstan's features are as follows:

Leadership

Consistent with a systems approach to leadership discussed in Chapter four, and depending on the context concerned (e.g., the impact of nature on society or a military conflict), the relationship between a leader and people may occur at several distinct levels, each with their characteristics. The first level is between (the focal) leader and the staff associated with the leadership function (see Figure 21 Leadership Team). At another level, the relationship may be between leadership (including the team) and supporting partner agencies, while at a separate level again, as in emergency management, the relationship between leadership and the public.

The focal leader

Simply put. Why should people follow you as the leader? In most instances, the role will arise as part of a command or executive appointment. Yet, even here, the leader/follower relationship is enhanced by establishing credibility and flexibility to use the most appropriate mode of exercising authority. In situations involving community leadership (council or community body), the role arises either from self-appointment or a democratic process. Either way, the establishment of credibility is an important antecedent.

This credibility is earned through a variety of means. Aristotle spoke of wisdom, mastery, good character, benevolence, or being recommended by a reputable source (Rapp, 2010). Other means include a unifying vision and status, although, to a degree, this last means is a by-product of those above.

In days gone by but even in some sectors today, the support of a deity is of value, although in more secular terms, where the leader and followers (people) achieve alignment of values, you are more likely to gain unity.

The wider leadership system

Chapter four promoted the concept of the leadership system (comprising staff system, culture, values, rules of engagement, training, exercises, and plans) wrapped around the leader, the

characteristics of this person to be discussed in the following chapter. Of note, none of these features can simply be created at the commencement of an extreme context, implying a period of preparation, particularly where this involves partner agencies. At each level, depending on the nature of the extreme context, in some circumstances, the operational leader must lead this team or system as well as lead those supporting the broader response effort (meta-leadership), plus in some instances, those people comprising the wider public. This situation may require different skills, experience, priorities, and a separate establishment of credibility for each group. For example, a controller appointed within a council/region may gain credibility with the staff through status or proficiency. With response partners, this may occur through relationships and regularly multi-agency training. However, in the public's eyes, leadership vision, benevolence, and the message may hold more weight.

People

Analysis of the content of Chapters four and six would indicate that people are a mixture of expectations, emotions, and action; driven by context, culture, focus, and belief; influenced by trust in and perceived ability of the leader. In the minds of many, success is attributed to the potency of the leader (Khurana, 2004); however, in reality, success is often the outcome of the cumulative efforts of the people as motivated, harnessed, and channelled by leadership. The challenge for the people is in determining who they should listen to, particularly when there is so much noise during extreme contexts with everyone having an opinion and voicing it. This argument is discussed in more depth in Chapter eight, however, for the people, the voice they should follow should be the one that combines credibility, ownership, and an understanding of the context. This, however, is not always the case.

In a democracy, is a successful leader gifted, or is it simply a case of the people electing a person who demonstrates vision and values commensurate with their own. There is, therefore, a predisposition to support them, resulting in the achievement of the desired

outcome. Using a sporting context, was Daniel Vettori (the New Zealand Cricket Captain, 2007 to 2011) or Ricky Ponting (the Australian Cricket Captain, 2002 to 2011) the better captain? Indeed, in terms of success on the field, it was Ricky Ponting, however, was that success contributed to his captaincy or simply that his team was better, or was his team better as a result of his captaincy?

The importance of people and their diversity of beliefs, values, and desire for action has been explained in Chapter four, pages 96 to 108. Of note is the similarity between extreme contexts and wicked problems. To reiterate, Grint (2008) states that no singular solution will meet the needs of such complex situations, and the people best able to solve extreme contexts/wicked problems are the people themselves.

All this, along with the commentary commencing on page 96, would see indicative people analysis factors as shown on the following page. This non-prescriptive diagram sees key people factors bridging the gap between leadership and purpose and includes those features derived from the analysis of the content of Chapters four and six.

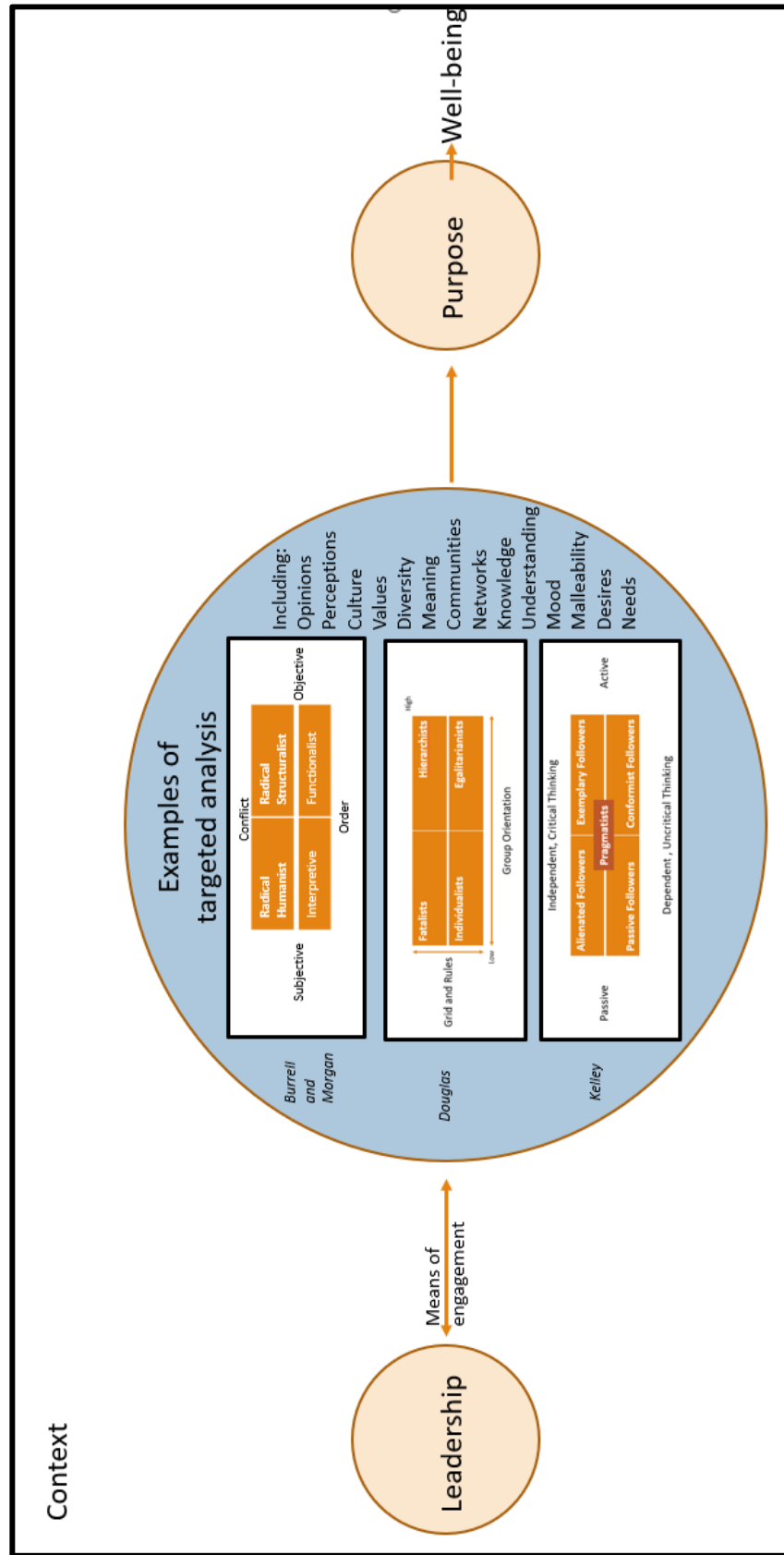


Figure 44 Leadership Capstan - People Layer

Means of Engagement.

According to Aristotle, this is the argument or message. This message comes with the dimensions of content and delivery (Rapp, 2010). Those content factors are discussed in greater detail in Chapter eight, with an indicative capability model provided on page 294. With respect to delivery, leadership must also consider the most appropriate means of exercising authority, whether this be governance, command, leadership, or management. In some cases, there may be a fine line between these options, and at times, this may require mixing and matching the required approach in the manner described in Chapter five (Table 21 reproduced below). This table explains the differences between the four primary means of exercising authority, including when they might be most appropriate.

Means	Definition	Components	Focus	Led by	Through	Delivering
Governance	Democratic power and accountability	<ul style="list-style-type: none"> Defining purpose Holding to account Effective compliance 	Purpose	Accountability	Strategy and Holding to account	Results/ compliance
Command / Executive	Authority, responsibility, and duty of direction	<ul style="list-style-type: none"> Building the organisation Developing strategy Giving direction 	Organisation	Authority	Structure and Strategy	Mission
Leadership	Getting people to achieve objectives	<ul style="list-style-type: none"> Building and maintaining teams Defining and achieving tasks Developing individuals 	People	Vision	Relationships	Outcomes
Management	Organising and controlling resources to achieve objectives	<ul style="list-style-type: none"> Marshalling resources Organising and controlling resources Deploying assets 	Systems	Mission	Processes	Efficiency

Table 21 Leadership Capstan - Authority Layer (repeated)

During Covid 19, the government would have been within their rights to use a command approach: Wearing masks on public transport is compulsory. However, initially, this was set, to encourage mask use (using a more leadership style – this is why it is beneficial, join with us). Leadership and this concept of taking people with them would have been a crucial factor in the “team of 5 million” message, which was frequently used during the pandemic (Cameron, 2020).

Aristotle argued that the strength of a message is often enhanced by inductive or deductive reasoning (Rapp, 2010). Deduction commences with a broad statement and considers the possibilities of attaining a logical conclusion or testing the initial hypothesis. Using deductive reasoning, we can predict what the observations should be if the hypothesis is correct. Many people have died of Covid 19 throughout the world. We live in the world; therefore, we are at risk of contracting (and dying from) Covid 19.

Inductive reasoning is the opposite of deductive reasoning. It derives generalisations from specific observations or data. A good example of this is the black swan phenomenon, ignoring the metaphor it spawned (Taleb, 2007). Until the later 17th century, all swan sightings were white swans, inferring that all swans are white.

Notwithstanding the possible biases inherent in such arguments or variations, the result of contextual conditions, Aristotle's hypothesis is conditional on a rational audience, something that cannot always be assumed. While irrational reasoning and conspiracy movements previously existed, they reached their zenith during Covid 19, with people using a perverse form of inductive and deductive reasoning to justify bizarre scenarios - QAnon, the 5G Covid link, and to a lesser degree, anti-vaccination theories (Leach & Probyn, 2021).

Therefore, there is a need for layered or multiple messages and means of engagement, as indicated in Grint (2008), clumsy solutions to wicked problems (amplified in more detail on page 96). This outcome may require a degree of crafting (manipulation) to promote the desired effect, something which has occurred throughout the ages.

He had the intuitive gift that great generals possess, of sensing the mood of his soldiers and transforming it. On his arrival in Gascony, the Prince had realized that some of his troops were frightened. Fear is corrosive and can paralyze the will of an army: the Roman writer Vegetius, whose book on warfare was read avidly by the medieval aristocracy, warned the commander to look out for fear in his men – in their

facial expressions, language, and gestures: 'Say anything,' Vegetius advised, 'by which the soldiers' minds may be provoked to hatred of their adversaries, by rousing their anger and indignation.' The Black Prince instinctively understood Vegetius's advice. He turned his men's fear of their opponent, the count of Armagnac, into anger and ultimately – as the campaign progressed – into open contempt.

This observation was of the Black Prince's exploits during the One Hundred Year's War between Britain and France (Jones, 2017, p. 177).

One key aspect where difference exists between the sectors considered part of this research is how leadership engages, harnesses, and channels people's actions to support a goal or mission, noting that in some cases, this may need to occur via a conduit.

In sport, this is limited to those people comprising the team. For business, this extends to those covered by the employment relationship (although some strategies extend this to potential customers). During military operations (conflict), it extends to those under command, with indirect or collateral consequences for those in the vicinity. For emergency management, those directly engaged are the team, the teams from partner agencies, and the general population.

Decisive moments

As previously advised, it is not the singular actions of leadership that are critical, but how leadership engages, harnesses the team's collective talents, and then channels these in support of a mutually desired outcome. As indicated by Aristotle (Rapp, 2010), the effect is most potent when leadership strikes harmony with the value set of those led, mindful of the context experienced by both leadership and those being led. This context may, of course, apply differently to everyone involved. During the Kaikōura series of events as they impacted Wellington (earthquakes, tsunami, storm, floods, slips, tornado), the controller, by admission,

was having a really bad day! When questioned as to their impact, reactions by those members of the public interviewed ranged from:

It was no big deal, really (Interviewee 18 – Member of the public (NZ European), personal communication, August 6, 2020 – a Tawa resident who worked in the Wellington CBD).

Difficulty sleeping at night, routine disrupted, and “just wanted things to return to normal” (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020 - central Wellington resident who worked on the fringe of the CBD).

“I pretty much battened down for about four days, at least and just held the space and made a plan,” shielding the children from the impact (Interviewee 19 - Member of the public, identifying as Māori, personal communication, August 20, 2020 - a resident who lives and works in Porirua).

I guess the panic popped in, like, what if that happened to us, what are we going to do, are the kids trained enough - do they know they need to drop, you know, find cover and that kind of stuff, because they would be at school, they won't be at home. I think it is more that we weren't prepared if it was to come to our shores, on this side. But the impact, I think, is just seeing people within your own country suffering, and just the delay - the help they got was quite delayed (Interviewee 25 - Member of the public, identifying as Pasifika, personal communication, September 28, 2020 - another resident who lived and worked in Porirua).

In this case, people experienced the same extreme event, were guided by the same leadership, and had the opportunity to hear the same messaging. Yet, the impact on their lives was entirely different – different fears, priorities, levels of disruption, as well as personal and whanau resilience.

Context

Hannah et al. (2009) describe the dimensions of extreme contexts as location in time, magnitude and probability of consequences, physical or psycho-social proximity, and the form of the threat. This research would indicate that the following factors should be added to those original dimensions: history and culture. This last aspect could be more appropriately categorised under people. Whereas both Hannah et al. (2009) and Osborn et al. (2002) have suggested a symbiotic relationship between leadership and context, this must be extended to include people as an integral part of that relationship, making it tripartite rather than bipartite. In this respect, context need not be real. It can be perceived; as driven by understanding, personal circumstances (including resilience), and many other factors. You could therefore have the same actual contextual drivers, same leadership, same decision-making, and same means of engagement, yet the context is as individualised in the eyes of each person involved.

Attenuators.

Attenuators are decisions or actions that ameliorate the context (Hannah et al., 2009). Where an adversary is involved, then attenuators can include influencing, harnessing, and channelling intensifiers (or psychological pressure) back in their direction. Again, the case studies examined (in Chapter six) indicate a degree of consistency, with the following featuring prominently – application of an effective strategy/tactics, effective messaging, decompressing time and space, the application of resources (including funding and people), decisiveness, and playing to cultural strengths.

Intensifiers

Intensifiers are those factors amplifying the challenges posed by the context (Hannah et al., 2009). Consistent with the argument above, it can be common to all or personal to an individual. The case studies (in Chapter six) examined indicated a degree of consistency. The following featured prominently: compression of time and space, volume, complexity, and

clarity of information (leading to situational awareness challenges). The context can also be intensified through personal factors, lack of resilience, and intolerance of an increased cognitive load. A good example of this occurring during Covid, however, influenced by other contextual factors, was Todd Muller's reaction to the trials and tribulation of political leadership ("Todd Muller quits as National Party leader for health reasons," 2020). A record of broader factors that may act as intensifiers was included on page 230.

Notably, while response organisations create plans to ameliorate contextual factors, they often ignore measures addressing intensifiers.

Purpose

Purpose is a component that was not strongly identified through analysing data from the two primary case studies (Covid 19 and the Kaikōura series of events as impacted Wellington). However, it was an essential feature of other contexts, sport and conflict. That raises the question of whether it features as part of a universal model or only on some occasions. As previously indicated, purpose can be a collective, future state, desired state or effect, mission, or vision. For sporting and conflict examples, it will reflect the campaign goal or mission; to win or defeat an adversary (in itself, another difference between emergency management and sport/conflict). As previously stated, purpose does not appear, or it was never raised as a feature during an earthquake or pandemic. This situation is because the response leader's mandate is restricted to blunting the context or managing the intensifier/attenuator interface appropriately. On reflection and reconciling the similarities/differences between the broader selection of extreme contexts, this may be the primary reason why so many extreme contexts, at best, seek/achieve a survival outcome rather than thriving despite the circumstances. Beyond blunting the presenting threats, they have no immediate identified purpose, mission, or aspirational desired outcome. This purpose, outcome, or effect may come with time, just as Napier underwent a renaissance following the 1931 earthquake, to emerge as a living

monument to the art deco movement, and national standards and conventions adopted lessons learned from the destruction (Hill, n.d.). However, unless something beneficial is generated as a result, then leadership has missed its calling. The model is called the Leadership Capstan, recognising that it exists to leverage something (fulfil a purpose). More on this in Chapter nine.

Integrated aspects of the model

The similarities between leadership in extreme contexts and solving wicked problems warrant further discussion. As previously stated by Grint (2008), a wicked problem is complex as opposed to complicated. It cannot be taken from its social context, addressed, and reinserted, as the problem, context, and leadership components are inextricably linked. Similarly, an extreme context cannot be solved in a laboratory and the solution inserted back into the real world. Instead, like chess, change one component and the context plus all the other elements of the Leadership Capstan change.

Further, there is no ability to reverse the move and start again afresh. For instance, stating there is no tsunami after a significant earthquake and then advising there is, doesn't constitute a move back to step one. Such a move further complicates the situation, raising the level of uncertainty, throwing doubt on leadership decision-making in the public's eyes, and leading to an overall lack of confidence, meaning the next round of decisions has to counter an entirely new/different dynamic.

The integrated nature of the Leadership Capstan means that messaging must address the needs of perception rather than the actual needs, indicating a requirement for the constant monitoring of feedback loops.

Chapter Summary

The chapter introduced the Leadership Capstan as a model derived from analyses conducted in Chapters four, five and six and corroborated by an ancient Greek rhetoric typology. The key findings are as follows:

- Against the backdrop of a western propensity for categorisation and rules, the Leadership Capstan is not a tidy theory or style to be copied in the same way a recipe leads to a repeatable successful outcome. It is a contextual model which identifies the fundamental forces at play in an extreme context and challenges leadership to navigate a path that achieves an optimal solution within less-than-optimal circumstances. Accordingly, the model is universal and applicable in a broad range of contexts. The model provides the what and why and leaves leadership to determine the when, where, who, and how. This approach is similar to the non-prescriptive style of Baldrige (explanation provided on page 65).
- The Leadership Capstan reinforces the critical components of people and purpose as enhancements to the original Hannah et al. (2009) typology. The model is designed to help leaders understand that similar events will not have all the same characteristics and will impact members of the public differently; even the same person affected by consecutive similar circumstances will experience different outcomes.
- Leadership must also understand that there are multiple layers to the Leadership Capstan, with the leader-follower interaction working inside the response team, broader interaction(s) with response partners, and another broader still, interaction to engage and energise the public. Each of these different layers may require a different means of exercising authority, different messages (both content and delivery), and may achieve different levels of success.
- It also highlights that addressing only the context through attenuating actions designed to ameliorate the intensified impact of the extreme context will not produce a satisfactory

outcome. There needs to be a unifying purpose that brings people through to the other side. In this respect, the purpose is not a series of outputs or indeed outcomes but an effect. This is the product of both achievement and acknowledgement by the people. In some circumstances, this aspect of the Leadership Capstan may be driven by a separate authority.

- Whereas scholarship (Grint, 2008; Hannah et al., 2009; Osborn et al., 2002) has previously emphasised the symbiotic relationship between leadership and context during extreme contexts, a third factor, people, must be added for completeness. Each of these three components of the Leadership Capstan influence and is, in turn, influenced by the other two.

Chapter 8: Leadership Capabilities during Extreme Contexts

Introduction

This chapter examines the capabilities inherent in and required of leadership during extreme contexts. The content is derived from material gained from those interviewed plus any observations by the thesis author. The capabilities as identified were not initially grouped or arranged as part of any formal taxonomy to avoid any possible bias caused by the western predilection for categorisation (Nisbett, 2019).

The resulting capabilities were then analysed and compared against those leadership capabilities associated with business-as-usual roles and also reconciled against the results of previous research. These comparison studies were selected based on the diversity of approaches used and the leadership sample chosen for analysis, with the following differences between previous scholarship and this research being:

- a. The contents of this thesis were derived from a broader cross-section of participants representing many of those entities identified in Chapter four, not only response leaders but their response partners, staff, members of the public, media representatives, and those in governance roles.
- b. Participants came from multiple sectors and organisations, including emergency management, police, fire, the military, business, sport, and civil administration.
- c. Interview response answers may have been influenced by the emergence of recent phenomena considered less a part of the leadership environment a decade ago (e.g., the rise of social media, evolving perceptions regarding command and control). Even within the period of the thesis, 2018 to 2021, several factors emerged. While they previously existed, these gained increased awareness with the rise of Covid 19 (conspiracy theories and associated public unrest).

Capabilities

Those leadership capabilities identified from analysis of the interviews and observations during extreme contexts included:

Ownership

Simply put, own it. This capability involves taking responsibility and accountability on behalf of the stakeholders. This approach involves all aspects of the mission/operation, particularly the outcome (difficult to accomplish if the purpose is not well defined). That is, doing whatever it takes (within cultural/legislated norms) to get the best possible result (note the similarities to the command form of exercising authority), and demonstrating presence and visibility, so people know who is “in charge” and that leadership is acting in your interests. Some members of the public wanted their leadership to understand things from a local perspective. “Don’t be calling the shots if you are not living and breathing it” (Interviewee 19 - Member of the public, identifying as Māori, personal communication, August 20, 2020 - referring to Christchurch and Kaikōura). Where required, it means being quite ruthless in support of the collective needs and rights of the constituency. This requirement could mean standing up to other authority figures whose personal goals vary from the operational mission and operating parameters. It can require incredible personal drive to see the job through, meet context intensifier challenges, and respond with appropriate attenuating actions.

A critical factor in ownership is the promotion, building, and maintenance of those structural and materiel assets necessary to conduct effective response operations during an extreme context. Therefore, the ownership function should occur across time, pre-event, during, and post-event for continuity across all time phases. There is nothing as defeating and demoralising as inheriting a situation set up to fail. This situation sometimes occurs in a sporting and military environment. The parallel for emergency management is that response operations commence following a situation that has already resulted in a disaster (be it an

earthquake, storm, eruption, or counter-terrorist operations). In these cases, society has already experienced an adverse impact, and leadership is working frantically to promote stability and avoid an escalation. Even assuming a well-managed response, people will have experienced anxiety, inconvenience, and loss.

The concept of ownership is more easily explained through the actions of those who have had significant stewardship roles but were unable or unwilling to complete their full responsibilities for various reasons. Examples include:

- a. Australian Prime Minister Morrison holidaying in Hawaii while major bushfires burned back home (Karp, 2019).
- b. New Zealand Cricket coach Gary Stead taking a holiday following a 5-0 lost series against India, with the next series commencing without him (Johnston, 2020). Note, in both these instances, the individuals were entitled to leave and planned accordingly. However, their actions displayed a lack of ownership in the eyes of the public.
- c. Donald Trump and his attempt to deflect ownership of Covid 19 as impacting on the USA. "This is the China virus" (Reja, 2021). It may well have originated in China; however, the impact was undoubtedly the USA's to manage and suffer accordingly where this did not occur.

The examples provided indicate a much higher standard or threshold of commitment during extreme contexts as distinct from business as usual, in a way not dissimilar to the "bacon and egg" metaphor. Producing a plate of bacon and eggs requires the chicken to participate, however, the pig shows real commitment (origin unknown).

Many interviewees spoke of a time dimension: pre-event, during, and post-event. This situation adds an additional layer of complexity. In many instances, those responsible for actions on either side of an extreme context are different people (and organisations), driven by different priorities. In the drive for efficiency, the emphasis is on "just in time" logistics and not

“just in case.” Town planning, transport network design, and utility network construction predominantly occur outside the purview of emergency managers, whose job is to create or coordinate effective “people” solutions during times of network stress. One of the successes of the Christchurch series of earthquakes was the performance of the electricity distribution company Orion. Led by CEO Roger Sutton, Orion significantly enhanced the resilience of its network in the period leading to the earthquakes. As such, they were able to restore services in a manner that caused the least inconvenience (relatively speaking) to customers, with the company and CEO feted accordingly (“Christchurch three years on: Orion keeps city humming,” 2014). Would this admiration have occurred had there been no earthquake? Perhaps unlikely. This situation, therefore, raises the importance of resilience or continuity (the effective management of risk versus opportunity) as a critical factor in pre-event decision-making for businesses, organisations, families, and individuals, meaning the ownership function is distributed or shared by stakeholders. This capability means owning their decision-making and associated circumstances pre and during an extreme context and accepting the consequences as they arise. One controller spoke of receiving a phone call from an upset mother during a major flooding incident. She needed to get home to uplift her children from school, however, transport network disruptions meant a typical 20-minute journey would take seven hours. The solution would have been a simple matter if she had bothered to pre-arrange friends or neighbours to carry out this task and informed the school, as had been previously advised by the standard emergency management preparedness messaging. Instead, the controller was expected to find a personal solution as well as deal with the needs of the other 500,000 people affected (Interviewee 1 - Controller, personal communication, September 30, 2019).

This concept of ownership also moderates the actions of those in command/leadership roles. Comments on the Whakaari White Island eruption centred on the efficacy and appropriateness of the decision not to launch an immediate airborne recovery mission. As outlined in greater detail on page 98, one commentator went as far as to accuse the person responsible, of

cowardice (Blackham, 2019). While not diminishing the courageous deeds of those helicopter operators who immediately flew to the scene, it would have been a big call for the person responsible for air rescue operations to direct other people to put their lives in danger. This unsatisfactory situation would have been much more difficult had the rescue helicopters then crashed at the scene. This sense of ownership and responsibility (commensurate with the command function) was reinforced when the military officer in charge of the eventual recovery mission expressed his anxiety when directing staff to recover the remains of those on the island. This anxiety occurred, despite many of the risks having been mitigated through good intelligence, robust procedures, and the use of protective clothing (Leaske, 2019).

One last feature of ownership is to accept responsibility when things go wrong. This critical capability must be considered from the perspective of the different participants. Staff want to know “the boss has got their back” (Interviewee 26 - Controller, personal communication, October 9, 2020), the public wants honesty and transparency, and the media are looking for their scoop.

Credibility

Aristotle raised the matter of credibility in his rhetoric, many of those interviewed alluded to it as a requirement, and two interviews specifically raised it as a factor. As mentioned previously, one council had appointed two female, tier four managers as alternate controllers. While in the opinion of the Group Controller, they performed with great credit, and he would willingly serve with them again in the future, some council staff (particularly those in a more senior BAU role) were reluctant to take their direction or worked around them. Their ability to lead effectively was thus diminished through no failing on their part. This situation points to the importance of appropriate appointments, organisational reinforcement of their role, and exercising the resulting relationships through realistic scenarios (i.e., to include interactivity with people, purpose, intensifiers, and use of attenuators, not simply contextual factors)

One of the keys to credibility is reputation. This aspect can be examined by virtue of a 360-degree approach to leadership. The matter of intended versus perceived has been raised several times during this thesis. One of the interviewees highlighted this as having relevance for credibility.

One of the major things I mention is ILD in Defence, the Institute of Leadership Development - they have a programme that goes through from leading self to all the way to leading the organisation, and one of the underpinnings is understanding self-first, and in any leadership position, in fact, that has probably been the biggest revelation for me and in particular the understanding the difference from who you think you are and what others see - I think they call it, identity versus reputation. You can go cascading through life thinking that you are one thing, and even though that is not always a negative, it can be really, really helpful to understand how you come across. To that end, you start - and for me, it was about modifying how you come across to be more successful. And it can be all the way through to understanding what derails you . . . and that can be as simple as - a windowless box, if you don't get up and walk around a bit, you are never going to get through the day, or adventure that gets you through - that kind of thing. Or a day goes much longer unless there is a series of crises that to deal with. So, understanding yourself - understanding what makes you tick, is going to be important. It helps to have some insights into what makes other people tick (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

Given the reciprocating nature of leadership and people in the Leadership Capstan, understanding how others see you and how you “come across” is essential. This approach is different from the traditional western approach and desire for categorisation (Nisbett, 2019),

which, in essence, is being assigned to a group based on your answers to questions about yourself e.g., Myers Briggs (Michael, 2003).

You are only funny if people genuinely laugh at your jokes. An intent to create laughter is not sufficient.

The issue of credibility was also raised by other means, specifically when reconciling the impact of messaging by commentators versus authorised leaders. All this is linked back to the ownership function. As indicated in Chapter four, the official leaders have a staff system (team) wrapped around them, receive regular intelligence reports, and make the best possible decisions regarding all the stakeholders. This approach requires walking that fine line between risk and opportunity. Commensurate with the ownership function, they are held accountable for their actions, decisions, and the totality of the outcome/solution.

Interestingly, the public reaction to their guidance versus the thoughts and opinions (informed or otherwise) of commentators and independent advisers has been fascinating to follow. By virtue of their independence, these people do not always benefit from the leadership system's inner workings (including the latest intelligence, the entire logic and argument behind decision-making). They do not have ownership of the complete solution, compromised as it may be. Nevertheless, their opinions are out there competing for the attention of the public (Interviewee 10 - Controller, personal communication, September 30, 2020).

This particular point is not to diminish the right of people to have an opinion or express it, however, it has been interesting to follow the credence given to these people.

Commentators/influencers can choose the theme, scope, and timing of their argument, and are not limited by the need for pragmatism. Because they are merely providing an opinion, they cannot be held accountable for any outcome. Thus, they are never culpable. Therefore, it was interesting to note that Dr Michael Baker (a respected epidemiologist) was recognised as the Wellingtonian of the Year 2021 when both he and Dr Ashley Bloomfield (the National

Health Controller) were finalists ("Wellingtonian of the Year," 2021). Dr Siouxsie Wiles (a gifted science communicator) was named New Zealander of the year 2021 ("Kiwibank New Zealander of the Year," 2021). The dichotomy between the controller and adviser/commentators has parallels in the difference between command and leadership.

One important aspect of credibility raised by members of the public was modelling the desired behaviours.

Abide by the rules. So, when they say, stay in your bubble, do not leave your lot. Who was it? Hopped in the car and drove to the beach with his family 25km away or something. You have to have the discipline to abide, otherwise, you are undermining the whole (Interviewee 19 - Member of the public, identifying as Māori, personal communication, August 20, 2020 - referring to the actions of the then health minister during Covid)

Personal resilience and drive under pressure

In many respects, this capability is linked to those above. You cannot own all aspects of the response and establish credibility if you cannot manage both yourself and your level of commitment during times of extreme context. This requirement includes close family and their ability to cope. As previously mentioned, both the controller and response manager had problems at home during one major storm. The response manager had a tree come through a window at his house, and the controller had water coming through the dining room ceiling, his garage door had jumped its runners, not to mention a power outage in the middle of the night. Both families coped, and the events did not distract from the more pressing need to find community solutions to the storm's impact.

It is not a case of being immune from the effects of an extreme context but a matter of developing personal coping mechanisms to combat the challenges of context intensifiers and having the fortitude or moral courage to keep at it despite overwhelming challenges. This

capability requires a degree of personal understanding, knowing what works for them and keeping going in the face of heightened pressure and risk. Examples of coping mechanisms included (Interviewee 1 - Controller, personal communication, September 30, 2019):

- a. Detaching from non-essential matters. Knowing that the impacts of an earthquake would consume his attention for some time, one controller resigned his role as a chair of a major sporting association to narrow his priorities to those that mattered.
- b. Establishing sustainable routines. During one extreme context, a local council's team of six controllers could not establish a sustainable 24/7 roster and required supplementation from outside resources. Yet during the same event, another council was able to cope with essentially three controllers working standing shifts, so their circadian rhythm and routines were not adversely disrupted.
- c. One controller, known for being a poor eater during extreme contexts, found that his team appointed someone to follow him and place food options within easy grasp.
- d. Knowing that 24/7 EOC coverage was essential should major aftershocks be experienced, albeit that task loadings at night were low, an evening shift controller kept his EOC entertained with a selection of movie classics while allowing some to get some sleep on stretchers in the room next door.
- e. The importance of mealtime as an important hygiene factor (Herzberg, Mausner, & Snyderman, 1959). Operational staff appreciate it when good food is available, and morale drops when an unimaginative caterer is on duty.
- f. An enhanced sense of collective well-being. During EOC operations, many staff took a heightened interest in the well-being of those around them, giving praise, enquiring as to the welfare of others, and trying to support everyone in the conduct of their duties.

- g. Switching off and on again to focus at critical moments. This approach is most apparent when watching a game of cricket. During the game, the batsman relaxes between balls (wandering from the crease to inspect the pitch and adjusting their pads). A personal routine follows these actions (e.g., three taps of the bat, chin up, lean forward) to reconnect with the moment before the next ball is bowled. In the same way, some controllers during troughs in activity would relocate somewhere private for a few moments to just get away from the in-your-face demands of the response.
- h. Humour and fun. Looking for the lighter moments during the intense pressure of an extreme context assists some. This situation may result from deliberate actions or just seeing the funny side in otherwise regular events. In one major earthquake response operation, the controller found a few moments to adjourn to his office for time out. A sudden hush went around the staff while others came running when he was heard to exclaim in a loud exasperated manner, “for f*** sake, it’s a total collapse.” There was a general sigh of relief when they realised, he was merely watching the progress of his favourite cricket team, who had lost several quick wickets and was not another building failure.

Base Resilience

One of the questions asked of those interviewed, specifically those who had led during extreme contexts, was when the going gets tough, what do you dig down to, to get through? This issue strikes at the heart of what drives a leader when faced with an overwhelming context. The responses were varied and indicative of the importance of their role and mission, a deep personal understanding, and knowing what works for them. While some responses have been summarised for conciseness, others have been repeated verbatim. Responses included:

- a. So much was at risk. Failure was not an option, and despite the distractions (criticism, challenge, lack of situational awareness etc.), we just kept our head down and plugged away. Fear of failure? Was going to do what it took to get a good outcome, for those things within my power to influence. I had experienced many of the situations, at least similar situations before, including many of the distractors; pressure from public and media. I overcame them then, so could do so again. Mindful that I had never experienced all those individual things on top of each other at the same time (Interviewee 1 - Controller, personal communication, September 30, 2019).
- b. I have a very active internal dialogue. It happened on the night of Kaikōura, the earthquake. The first couple of hours were getting quite exciting with the tsunami thing. And the EOC was very noisy, people getting very excited, and I had a strong internal conversation which said, calm down, just calm down. It's nothing other than a strong internal conversation. *(When asked if this meant a good sense of self-awareness, responded)*. Yep. I sensed that I was getting excited. So, I calmed myself down and told the team to calm down. Threw some people out of the EOC who were being noisy and weren't contributing and just calmed the whole thing down (Interviewee 2 - Controller, personal communication, October 10, 2019).
- c. I think it comes back to my motivation again, you know. I have experienced in my life that you, there is an extreme event, and you just stay on and on and on, and you burn yourself out. And at the end of the day, you're not worth nothing because physically experienced that. When I was younger, it was not too bad. You could stay on for 42 hours and try and manage . . . but with Kaikōura, I think my first stint was about 29 hours, and when (the controller) forced me home. You don't want to go; you don't want to go because adrenaline is high. The impact: you're making an impact in those first golden hours, and that's, you know, and a big event like an earthquake - first two, three, four days, that's your golden hour period or window, . . . you want to be part of it, but

you are of no use, and I've seen with Kaikōura when (the controller) said to me, now you go, I was absolutely stuffed. And you know, I was sitting there, and questions being asked, what, what is this, you can't think; you just go into a, into a survival mode. So, I think the big thing is that you recognise that you are important. You also recognize that you need to rest because if you don't rest, your importance just disappears. So, enough rest and keeping that motivation there, that is the critical stuff (Interviewee 4 - Controller, personal communication, November 15, 2019).

- d. Making progress, handling a crisis well, making serious inroads into the recovery, and seizing the opportunity to make some long-term gains (Interviewee 6 - Council Chief Executive, personal communication, December 11, 2019).
- e. I come from a long line of stoics. So, my mother had a bit of a rough life probably but was cheerful throughout it all, and you know, kind of thing. It is quite a good quality, isn't it? My grandmother was the same. I kind of look a bit to that and think, actually it is not as tough as some peoples' lives, and certainly during that most recent little drubbing from the press, somebody said to me somewhere in the course of that, Chris Finlayson, ex-Minister of Treaty settlements, had apparently commented in some public interview that he had received some of the most horrific correspondence during his time as Minister and you think; that is right you know, you can live through these things - they come, they go and actually, staying your course is as good as you can do (Interviewee 8 - Council Chief Executive, personal communication, December 18, 2019).
- f. I think there is a couple of things; one is you need to look after yourself - this has come up a number of times. You need to have a core inside you that nothing touches. You are always going to take body blows with this stuff, and sometimes people will scream at you because your job is to be screamed at, and you need to have a nose for when that is something you need to worry about and when that is something you don't need to worry about. And knowing how to not worry about something is a skill in itself. I guess

that is personal resilience, you might call it. . . . I also think, when you are under stress, it is kind of easy to forget who you are and behave in a way that is not you. It is really important to - everyone says that, but it is really important to stay calm or at least to appear as though you are calm. You might be shitting yourself, but as a leader, you need to understand that what you say and do, does impact on other people and if you are kind of exuding panic or anxiety, that flows down. But if you can do the opposite, you can actually really make it a more positive or less negative experience for everybody. So I think humour when bad stuff happens in the military, the best jokes come out because there is always some joker who knows - perhaps when you say the right thing or the crappy bloke, when things are at their peak knows just lets the pressure out and understanding that - this is all cultural stuff by the way and understanding who you can rely on, who you may need to wrap some support around - just basic stuff but under pressure, it is easy to forget the basics (Interviewee 7 – ex Alternate Controller, personal communication, November 11, 2019).

- g. I think your strength and perseverance comes from an understanding of whether you are doing the right thing. So, I tried to put myself in the position of the affected people and said if that was me out there somewhere, what would I be expecting? How would I be viewing this guy in the middle? (Interviewee 9 – Controller, personal communication, March 8, 2020).
- h. I tend to just keep reminding myself, it is tough now, but there will be an end to this, stick it out, be tough, face it for a while. There will be light at the end of the tunnel. This is not going to go on indefinitely (Interviewee 13 – Controller, personal communication, July 24, 2020).
- i. When I think of the training I went through with the SAS, and the resilience training we went through and the interrogation training we went through, they were pretty demanding periods, where you are exposed to a really realistic scenario of interrogation

over a prolonged period of time, with sleep deprivation - to me that two-week training activity is probably what gets me through many things because I think of the shit I went through on that particular course and the hardship physically and mentally and it is never as bad as that (Interviewee 14 - ex SAS Commander, personal communication, July 29, 2020).

- j. Your resilience, confidence in oneself to do a job, and also, an ability not to get too worried or to remain calm and to be able to keep going. . . . It is an ability, willingness to step forward and put your hand up and say, look, this is my job, and I am prepared to do it (Interviewee 21 – ex-City Mayor, personal communication, August 27, 2020).
- k. Keep calm . . . once I think things are in place, then just walk away. Let people know what I am doing - I just need to take some time to clear my head. It could be just to go and get a glass of water, cup of tea or something. Just to give you that time because that time you mentioned before is really important. I cannot allow myself to get tactical - operational. I try to keep on the balcony. So, remaining on the balcony is really important, hence I stand. Standing up is really important to me. If I sit down, I subconsciously take myself down into the tactical environment. I think trust is huge. I need to trust my people I have given direction and my intent. They are very capable; they have the training, the knowledge, and the aptitude (Interviewee 24 - Commander, personal communication, September 21, 2020).
- l. Fear is something which I describe as being physical, that is to say, you have the stomach, heart, it can give you the power of running very, very fast, but it can also cut you from being able even to make a move. . . . It is not something when you are a hero because you are not afraid. What is more difficult, I think, is to be acting rationally knowing that you are afraid (Interviewee 20 – Foreign Diplomat in a conflict zone, personal communication, August 20, 2020).

- m. There are three things that I do. One is you develop when you get into these senior roles; you have got to have reserves of physical, mental, and emotional energy. And those are things that actually - it is a bit like getting fit. You can actually train those things. Part of the resilience is getting fit on those things and also recognising when you have got to have a time to let them recharge, so there is that. I think the second thing I will come back to values. There is that point, there is a heck of a lot that you can't control here or don't know, but I can control how I behave, how I respond to everything. . . . So, that brings me to the third thing, which is, always remembering who you are working for, which is the public. And I make this observation that the countries that have done well in their response to this pandemic are those who have always had paramount, the safety and welfare of their citizens, not political or personal agendas, and many of those countries are led by female leaders as well, and I think there is something in that, so I think there is something in the leadership - we should be looking at the gender differences and how people respond in these crises (Interviewee 26 - Controller, personal communication, October 9, 2020).
- n. For me, it is just about staying in the fight. The real competitive edge for me, I hate losing, which I am sure you will find a surprise. For me, I think it comes down to I hate losing, and I hate people that just give up when it gets tough. So, for me, it is finding teammates that I can see that grit and determination to really dig deep, hard, to keep going when the cards are against us. For me, that is what I always fall back on, wanting to stay in the fight and making it as hard as possible scrap and, you know, do whatever I have to, to try and get out on top (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).
- o. I think that, when I have been under stress, I have always tried to - it is the simple things in many ways, get a good night's sleep, as much as possible, get up fresh and be prepared for whatever the day is going to bring to you. Being physically fit, mentally fit

are all extremely useful attributes, understanding the situation . . . you know because there is nothing like the fear of the unknown. The more you know about the situation, the better. And continually assessing the - taking the temperature of the people around you, the various people that you are working with and understanding where the threats might be coming from. *(When later asked about a situation where he had put his life at risk for another, the response was)* I think it is the right, you know you are thinking, what is the right thing to do? Is there a reason for going in there or not, and if there is a good reason, then you do it (Interviewee 30 - Controller, personal communication, November 5, 2020).

Other driving forces raised during interview included: a good sense of self-awareness (Interviewee 3 - FENZ Commander, personal communication, October 31, 2019); “your mission and who we are doing it for – the community” (Interviewee 5 - Australian Emergency Manager, personal communication, November 18, 2019); self-belief, the ability to keep a calm head, and taking time out even if it was just to go to the bathroom (Interviewee 22 – Controller, personal communication, September 8, 2020); faith or belief in something bigger than themselves in the presenting context and environment (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

While there were common threads in the responses, the answers reflected the different emphasis placed on foundation strengths. They were deeply personal and indicated that leaders in extreme contexts need to find their approach to meeting the challenges posed by extreme contexts, particularly as in some of the situations described, where the leaders concerned faced threats to their own lives.

It is worth remembering that while it is vital to understand the drive and motivation necessary at a personal level to come through an extreme context, leadership must leverage this to take their team(s) with them, and for emergency managers, the public also. Given the range of

motivating factors identified in the interviews, how much harder must this be for a larger and more diverse population.

For some people, the level of personal resilience and drive in the face of such volatility, uncertainty, and risk, was beyond their threshold. During Covid, some lay members of an ECC announced that they were uncomfortable working as part of a response team when so much was at stake, while others exhibited signs of distress and had to be supported (Interviewee 10 - Controller, personal communication, September 30, 2020). In a separate prolonged response operation, a controller announced that it was “all too hard” and they would need to close down (Interviewee 1 - Controller, personal communication, September 30, 2019). He was immediately replaced on the roster by the Group Controller and redeployed to another role without the same leadership demands.

Cognitive capacity

While alluded to by operational leaders, an interviewee with experience as a military psychologist and now responsible for leadership development in the corporate sector more eloquently highlighted the need for cognitive capacity. In her words, “you are not looking for the highest score possible,” but sufficient to be adaptable and agile in a rapidly changing high-pressure environment (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020). These comments echo the thoughts of others with operational experience, particularly:

- a. Being able to comprehend and manage multiple strands of activity and perspectives.
- b. Having an expansive mind, considering beyond your immediate horizon, while still focusing on the here and now.
- c. Being insightful and not taking everything at face value, learning to look behind presenting issues, keeping it strategic, and focusing on what matters. This requirement might sound obvious, however, one alternate controller reported that he spoke to his

EOC team about this very point and was countermanded by the controller. They were to focus only on the tasks as allocated. He later explained the staff were inexperienced and very busy (hence his transactional approach) (Interviewee 10 - Controller, personal communication, September 30, 2020).

- d. Being able to perform the analysis function at pace. This requirement was likened to navigating a ship doing ten knots and performing the same function at five hundred knots in an aircraft.

Exuding confidence

Included here is the ability to project yourself, such that you are follow-able, supporting the element of credibility. This capability requires a presence, degree of balance, projecting confidence even though you may not be, while not being overconfident (and avoiding the pitfalls that come with this). The capability is linked back to other factors, for example, confidence and calmness assist in putting others at ease. For some, confidence may come naturally, others liken it to the performing arts. "Once you walk through the curtain, you are suddenly the centre of attention and, 'It's showtime!'" (Interviewee 1 - Controller, personal communication, September 30, 2019). Controllers must learn to live life in the lens (and scope) of others. Some people do not react well to this, while others may resent your influence and profile. The confidence factor has two parts – self-confidence and confidence in the eyes of those being led. This last aspect is also linked to credibility and ownership.

Confidence is not just about making the right decision and sticking with it but knowing when to revisit, and if justified, fall back from that decision for another path.

When the earthquake struck, it was difficult to understand what was going on, and I thought the ship was breaking, or the engine room was destroying itself or the crane had lost its way until I looked into (port name provided) and could see what it was and my immediate thought was that if we stay here and the tsunami comes into the

harbour, then (ship's name) will not be any good to anybody. I didn't know how far away or what would be happening, so I wanted to leave immediately and amazingly, from being shut down and everyone at lunch to be ready to let go all lines was twelve minutes. And as I was preparing to let go all lines and back out of the harbour, I picked up my binoculars and looked into the inner basin of the harbour - everyone was poised to leave, we were going, go out, let the tsunami happen, then come back, and there was bubbling discoloured water in the harbour. And it suddenly occurred to me that I could no longer be confident about how deep it was - and if it wasn't deep enough for *(ship's name)*, I was going to turn a possible grounding into a certain one. So, there was that look of people not really believing what they were hearing when I said, change of plan. Triple up, drop both anchors, and start discharging cargo. So, I would call that dodging a possible bullet (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020 – referring to his time as a ship's commanding officer during a major earthquake).

Those being led also require confidence, particularly when operating at the edge of their unknown. Some of this is linked to the concept of presence and engagement.

I think they are looking for reassurance that they are doing the right thing because you are all working in a foreign environment, and particularly with Covid, people were nervous or anxious, and they wanted to know that they were doing the right thing, they were meeting the need whatever the need was. . . . And I have had a few people say to me that the controller wasn't very visible. He came in for the briefings at the beginning of the day and end of the day but never popped in to see how people were doing, but the response manager did, and they were really happy to have the response manager come in and sit down (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

Emotional Intelligence

EQ is important, notably self-awareness and self-regulation. Know what is happening around you. Understand how this is affecting others and make adjusting decisions/actions early. Note, managing this aspect, like the process of gaining credibility, may vary depending on the target audience, whether they be staff, partner agencies, and members of the public. While empathy is necessary, this must be balanced against a need to be sufficiently dispassionate, deciding, and then moving on to the next challenge. One controller spoke of the personal anguish experienced when in the absence of sufficient information, deciding on the likely impact of a potential tsunami, and immediately moving on to the next most critical threat, the earthquake (Interviewee 1 - Controller, personal communication, September 30, 2019).

Sense-making

The key to effective decision-making is situational awareness. It may be based on an options paper, a presentation, or a discussion in a corporate environment. During an extreme context, with the injection of context intensifiers, the compression of time and space, uncertainty, and ambiguity, a decision may be necessary nonetheless, even before the situation is sufficiently clarified. A good example of this is providing direction to the public regarding the potential impacts of a tsunami. To wait until all the facts are known with a degree of confidence would likely mean it was too late to take avoiding action.

One of the other aspects raised in several interviews was relating tasks, actions, events, and outputs to big picture outcomes; that is, having a set of objectives and strategies to achieve these and not becoming immersed in tactical considerations.

What we do is make sense of chaos. We are making sense machines, whether it is reading a spreadsheet, trying to extract meaning from it, looking at an interaction with somebody, or looking at a screen and determining what it is telling you. We talk about situational understanding, we talk about situation awareness, it is about situational

understanding, and then you resolve three things - what, so what, now what. . . .

What are you observing, what does it mean, what should you do? (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

In their leaders' framework for decision-making, (Snowden, 2005; Snowden & Boone, 2007), the following standard approaches are provided, based on the nature of the context:

- a. Simple (sense, categorise, respond) in the known realm.
 - b. Complicated (sense, analyse, respond) where cause and effect should be discernible, albeit there may be many suitable options.
 - c. Complex (probe, sense, respond) in the domain of unknown unknowns. Or,
 - d. Chaotic (act, sense, respond) where the situation is particularly volatile, there are no known anchor points, and immediate action is required to stem uncontrolled escalation.
- These guidelines, in effect, give licence to act, albeit it may be unclear what that action should be.

This last category may be open for discussion. Do you really act before sensing, or do you gather whatever intelligence is available (even if this is insufficient) and then act (decisively within a timeframe commensurate with the risks involved)?

In their article (Marcus et al., 2014) and the follow-up book (Marcus, McNulty, Henderson, & Dorn, 2019), the authors highlight the concept of swarm intelligence (the collective input of decentralised and self-organising groups to produce a data-fused common operating picture), as present during the Boston Marathon bombing response. To a degree, this is what a well-functioning EOC should be capable of, tapping into the myriad of sources available to produce situational awareness. Decision-makers warmly welcome good sense-making during extreme contexts.

Decision-making

Decision-making was consistently raised as one of the key capabilities during extreme contexts. However, interviewees were silent on how this was or should be conducted, apart from one person who was employed as Director of Leadership Development of a recognised organisation providing associated services to the private and public sectors. Notwithstanding this, there are numerous approaches to decision-making, either documented in practitioner-based guides, such as the Joint Military Appreciation Process (JMAP) (Joint Doctrine Centre, 2016) or the Red Book (US Army, 2005) or within existing scholarship. At the heart of decision-making scholarship, is the debate between two schools of thought: heuristics and biases (HB) as championed by Kahneman (2011) and naturalistic decision-making (NDM) as championed by Klein (2017).

The origin of NDM was in observing and analysing the actions and decisions of fire commanders, later expanded to include military officers and those in high-reliability organisations, e.g., nuclear power controllers. One of the more prominent resulting approaches (within NDM) was labelled recognition-primed decision-making (RPD). This approach was where experienced leaders would use tacit knowledge to make instant decisions, drawing on cues and strategies from a repertoire of experiences. A good example of this arose during the interview phase of this research.

We were doing sweeping operations every day seven days out, three days in. . . . And we came one night to a temporary base, and we always have to dig in, sleep below ground level. And we were almost going to sleep, and he (the unit commander) was in touch, touching distance from me, and he said to me, get the guys, we're moving. And I said, why? No, he says we are moving. Why? He said I just have a feeling it's not safe here. So, I just called you out; get the other seven. . . . We're moving, and everybody was annoyed now. . . . So, we moved about three kilometres away. And 11 o'clock that

night, sixty mortars rained down on that specific spot (Interviewee 4 - ex Soldier in a conflict zone, personal communication, November 15, 2019).

When asked about the trigger point for the decision to move, the reply was:

I spoke with him afterwards because he said to me the afternoon when we stopped and a very flat sandy desert. When we stopped, he saw a few kids just playing, playing around, local kids, 300, 400, 500 meters away, running around and then disappeared. And after this event, he said to me, I just had a feeling why were those kids there? They knew exactly where we are. Exactly where we're going to sleep. And he said, and I was lying there and just got this feeling. Better move from here. So that's when we moved, and I'll tell you one thing, our lives were saved by that person, just a feeling that he had that night (Interviewee 4 - ex Soldier in a conflict zone, personal communication, November 15, 2019).

On the other hand, the HB school of thought found fault with expertise or expert judgment and favoured statistical models or algorithms. A good example of this is the table developed by the United States Geological Survey that maps ground acceleration and peak ground velocity against event intensity for use by local engineers and response leaders to determine likely damage to infrastructure.

Instrumental Intensity	Acceleration (g)	Velocity (cm/s)	Perceived shaking	Potential damage
I	< 0.0017	< 0.1	Not felt	None
II-III	0.0017 – 0.014	0.1 – 1.1	Weak	None
IV	0.014 – 0.039	1.1 – 3.4	Light	None
V	0.039 – 0.092	3.4 – 8.1	Moderate	Very light
VI	0.092 – 0.18	8.1 – 16	Strong	Light
VII	0.18 – 0.34	16 – 31	Very strong	Moderate
VIII	0.34 – 0.65	31 – 60	Severe	Moderate to heavy
IX	0.65 – 1.24	60 – 116	Violent	Heavy
X+	> 1.24	> 116	Extreme	Very heavy

Table 26 USGS Damage Assessment tool

And while these two approaches may, on the surface, appear mutually exclusive, the two champions found they had much in common and, where they disagreed, were able to narrow things to a common position. In short, they concluded that:

Evaluating the likely quality of an intuitive judgment requires an assessment of the predictability of the environment in which the judgment is made and of the individual's opportunity to learn the regularities of that environment. Subjective experience is not a reliable indicator of judgment accuracy (Kahneman & Klein, 2009, p. 515).

Digging deeper, it would appear that neither approach fully meets the needs of leaders in extreme contexts.

The recognition model implies two conditions that must be satisfied for an intuitive judgment (recognition) to be genuinely skilled: First, the environment must provide adequately valid cues to the nature of the situation. Second, people must have an opportunity to learn the relevant cues (Kahneman & Klein, 2009, p. 520).

This approach is not entirely relevant where leadership has yet to experience that particular context, or the event is sufficiently unique such that contextual factors make the impact arising from similar initiating events quite different (say the Christchurch earthquake versus the Napier earthquake). Similarly, if the impacts of extreme contexts are different, notwithstanding any similarities (e.g., the impact of the 2013 Seddon/Cook Strait series of earthquakes and the 2016 Kaikōura series events, as impacting Wellington), then it must be challenging to produce a relevant standard algorithm. And yet, both approaches must still have some relevancy as the decisions must be based on experience, cues, standard modelling and being cognizant of biases. In Wellington, the Group Controller, city Chief Executive, and many building engineers experienced the 2013 and 2016 series of earthquakes. While some of the impact cues were similar, others were entirely different. Engineering modelling tools to

measure ground accelerations to indicate the likely damage to buildings were available.

However, staff needed to be mindful of the potential biases, not the least being anchoring bias. The initial GeoNet magnitude assessment for both earthquakes was similar, with the 2016 earthquake later adjusted upwards by some considerable margin (WREMO, 2017).

With the above theories being applicable but not necessarily helpful, one other approach was identified during the literature review that showed promise: Cynefin (page 25). This approach, too, could be loosely categorised as NDM. For chaotic situations like those experienced in 2016, the flow should have been to act, sense the result, and respond accordingly.

Notwithstanding this logic flow, the controller felt it was necessary to consider what experience was telling him, be informed by the cues, be cognizant of the science, and be mindful of potential bias (Sibony, 2019). The actual situation demanded he quickly assesses what little information was available, decide on the likely tsunami impact, and then inform the community accordingly. This decision was made, in advance of the official (national) advice, as to have waited would have left any resulting action too late. As previously stated, the situation was further complicated when the official advice, received thirty minutes later, was inconsistent with the initial assessment, prompting a review (Interviewee 1 - Controller, personal communication, September 30, 2019). This resulted in the initial assessment being confirmed. All this uncertainty, confusion, and decision-making occurred before immediately moving on to the next most pressing presenting risks – the earthquake's impact on buildings and infrastructure, the storm, heavy rain, flooding, slips, and small tornado. And, of course, the resulting implications for people. The controller concerned stated he felt quite nauseous at the time. The consequential decisions were made at pace, in a dynamic environment, with insufficient situational awareness to be entirely confident and the potential for catastrophic outcomes if proved wrong.

Analogously, the decisions required to be made in response to Covid frequently strayed into uncharted territory (Interviewee 13 – Controller, personal communication, July 24, 2020). Although the country had a pandemic response plan, the notion that the general population would be subject to “lockdown” had not been seriously contemplated. The resulting leadership structure, the Quintet, was a bespoke arrangement, established and then modified; and the operational leader, in his own words, had to work with basics, rather than specifics:

You get a situation where you basically don't have control over much of the situation; what are the four things you rely on? Well, first of all, what is the information that you have got, so you might have to use unorthodox avenues for getting that information. And our most important source of information early on was the intelligence we were getting back from our Foreign Affairs colleagues from around the globe. There is always a lag time on stuff being published, but The Lancet and others were really quick to get platforms up and data out there, but it was just actually, on an hour to hour, day to day, real-time intelligence on what was happening in other countries that had Covid. So, it is what knowledge you can get.

The second, of course, is your experience, so, while nothing prepares you for this incident, we did have Whakaari White Island, we did have the measles outbreak, and we did have a - we have had earthquakes around here but - I was involved in response to a pandemic in 2009. You can draw on those things and, of course, all your professional and other life experience.

The third thing is values, and I am quite strong on this and actually, one of the things I have just started saying in the last week or two is, when there is so little you can control, the one thing that you can always control is your behaviours, and your behaviours, of course, will reflect the underlying values. And our public service and

certainly our organisation has a strong value set, and many people's personal values are closely aligned with that.

Now interestingly, today, there is an editorial in the New England Journal that is one of the top three medical journals in the world, and it is absolutely roasting the Trump administration. I have never seen anything like it in a medical journal, and it has a line that says, "the one thing we can always control is our behaviour, and our leadership has behaved poorly". And the same line, values are really critical there. And the fourth thing is resilience (Interviewee 26 - Controller, personal communication, October 9, 2020).

Of course, the health dimension was but one strand of activity, albeit an important one. In addition to that were the social regulatory response, social support response, economic response, and policy responses. This last feature was a challenge as it required a new set of social and regulatory rules. As previously outlined, what the nation had developed over one hundred and eighty years had to be modified, almost overnight (certainly in short order), to cater for a new paradigm.

In addition to the above, within the broad span of those factors contributing to decision-making, several points were raised during the interview that warrants highlighting for consideration as part of the decision-making process during extreme contexts. These are:

One eye on the big picture

Consistent with ownership responsibilities, the controller/relevant governance body must grasp the big picture and make decisions well-grounded in the strategic environment/direction. "I try to keep on the balcony" (Interviewee 24 - Commander, personal communication, September 21, 2020). The tendency is to be drawn into the tactical ebb and flow of the impact intensifiers and fail to support the organisational/societal purpose if there is one.

Balancing risks and opportunity

In leading response operations, a key feature is managing the fine line between competing risks, whilst promoting fertile ground, thereby allowing opportunities to be grasped. These risks may be long versus short term. During Kaikōura's impact on Wellington, objectives for response staff were the (short term) safety of the public without adversely compromising (longer-term) economic and social well-being. During Covid, it was health risks versus economic impact. Sometimes this requires prioritisation. In Wellington, during Kaikōura, the immediate priority was managing the impact of the associated tsunami. With the appropriate messaging conveyed, leadership attention refocused on the state of buildings and infrastructure. This prioritisation of risks is commonly practised in other situations. "In the Navy, combat priorities are, float, move, fight" (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020). This approach means that where response resources are stretched, the immediate focus is on keeping the ship afloat, followed by being able to manoeuvre (thereby opening up weapon arcs), and finally taking the fight to the enemy. A similar priority system is practised by first aid teams – DRSABC. Check for **danger** to the patient and responder, check for **responsiveness**, **shout** for help, open the airway, check for **breathing**, and commence **cardiopulmonary** resuscitation (New Zealand Ministry of Health, 2021).

In such situations with competing risks, there is little guidance available to determine acceptable thresholds. For instance, what constitutes an acceptable loss of life? During Kaikōura, the controller in Wellington was very mindful of the potential blowback should someone die or be seriously injured by attempting to keep a damaged city running. Yet, during the same twelve-day period the EOC was in operation, based on an average daily fatalities figure, roughly eleven people died on New Zealand roads, with 408 injured. There was no corresponding investigation, nor was there criticism that the roads continued to operate during this period.

During Covid, with an increased level of scrutiny and expectation, the challenge of harmonising the activities of a multitude of people across several government organisations and the likelihood of error and omissions were high (e.g., the lack of PPE, people escaping quarantine facilities, cases in the community, and local vaccine shortages). While ideally, people should be judged on their span of control, what they could be expected to know, their decisions, and how they executed those decisions, leadership is ultimately judged on outcomes. This situation poses quite the challenge for operational leaders in a dynamic, uncertain, and complex environment. This situation is not unlike those governed by Normal Accident Theory (NAT) with complex and integrated systems, multiple interactions between entities, and the prospect of uncontrollable cascading outcomes, meaning adverse effects are unavoidable, and no amount of design or process can overcome this (Perrow, 1994).

A classic example of this is provided by Klein (2017), with the USS VINCENNES shooting down an Iranian airbus in 1988, mistaking it for an attacking Iranian F-14 jet fighter. A combination of extreme context conditions; a high threat environment, previous and contemporaneous hostile action, insufficient preparation, concurrent and consecutive corroborating intelligence, incorrect information, communication challenges, insufficient delineation of military/civil activities, compounded by acute time constraints resulted in a tragedy. As a result, the international standing of the USA was diminished in the eyes of many, notwithstanding all the previous correct decisions made during the hostilities, including those by the VINCENNES's Commanding Officer. However, given the factors listed above, an outcome of that nature was perhaps inevitable. This understanding is an important reminder of the projected perils for all operational leaders during extreme contexts and something for those in governance roles to be mindful of when committing and setting strategic parameters for those called on to exercise judgement in extreme contexts.

Effects based operations (EBO).

The commentary on page 61 and the following pages introduced the concept of Effects Based Operations. This concept is important during decision-making as a phased process, particularly where resourcing is an issue or there are many steps to achieving the desired outcome.

Understanding EBO is an important enabler of successful outcomes and avoiding some adverse outcomes by taking decisive action early in the process. EBO commences with a statement of the intended end state (loosely equating to purpose – see discussion on page 245), followed by enabling objectives, an understanding of the desired effects or outcome(s), determination of measures of effectiveness, and lastly, the initiating trigger. During extreme contexts, what are those decisions, if made in time, that can avoid an escalation of adverse impact with flow-on consequences? In New Zealand, the early initial lockdown during Covid may be one example. This decisive action dramatically slowed the potential transmission rates, with an immediate impact of a reduced infection and death rate. Had this not occurred, flow-on consequences might have included prolonged lockdowns (as happened in the United Kingdom and Australia). In New Zealand, this approach allowed hospitals to maintain (albeit a reduced) capability and capacity for normal acute and emergency cases, and public confidence in the system. In addition to managing risk/hazards, Effects Based Operations principles can also promote opportunity. During Covid, the New Zealand decision to apply wage and salary support mechanisms had a direct impact on safeguarding family income, with flow-on consequences of public compliance during the lockdown, buying time for businesses to learn to adjust to the new uncertain and volatile environment, and for some people, promoting household savings (noting reduced expenditure during this time).

Displaying values versus actions

This approach applies when prioritising values versus actions, where values are the general principles underpinning behaviours. During Covid, one particular organisation that provides leadership development programmes chose to focus on caring and trust.

The challenge is, there are always going to be trade-offs because it is not an environment where you can have everything. There are limits. So, if you prioritise one, you restrict what you can do with the other. From a leadership perspective, I think there certainly are things that can be done. If you know some fundamentals about human nature, we know people are wanting to create predictability and certainty, part of a leader's role is to do that in times of flux and change. So, putting in place everything to do with health outcomes that we possibly can - let's use the example of our own business. We have chosen to put protocols in place that are over and above what most businesses are doing when at minimum, following the letter of the guidance that is coming out of the MoH. And some of that is more about showing people that we care, that we have that stuff under control, so they don't have to be concerned or feel unsafe. So, that prioritises the health side of things. And then, looking at people that follow, in terms of, a whole person, not just a person who is in the midst of a response or at work or whatever the case may be, so you know, showing that caring concern for others. . . . So, if you simplify it down, in times when you are balancing those things and having to make those trade-offs, that people see some of those core components of that competence, affiliation with others, and that real care and concern for others or predictability, then they are likely to feel better because they trust (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

Providing direction

Notwithstanding the benefits argued for participatory leadership and the varying needs of those being led, a common thread throughout the research was a desire for positive directive leadership.

"I think in response, they need to be quite dictatorial. I don't want a wifty-wafty person."

When questioned as to whether this meant 'directive,' the response was:

That is the word I wanted, thank you. Yeah, I want a directive leader, and I know about the different kinds of leadership, but when the time comes, you want someone who is going to make a decision or empowers you to make a decision and backs you up because they know you are (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

When questioned as to how these capabilities may differ from a corporate leader working in a BAU capacity, the response was:

They are more relaxed manager who may be happy to just let someone do their own work, which for me works very well in a BAU basis, or you might be someone who pulls everyone together and gets everyone's opinion on everything that you do. . . . But during a response, you want someone who is not afraid to take control and make decisions and give direction. And I know from my own experience that those two qualities don't always merge. So, someone who is your BAU manager or you as a BAU manager might not be the right person to step up during a crisis (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

Of interest, during Covid, even sectors not known for command-and-control authority styles found a more directive style was not only tolerated but welcomed. “The interesting thing was that I had (*name of sector organisations removed*) CEs say to me, we are happy if you tell us what to do, if you need to lead on this thing, we will follow” (Interviewee 26 - Controller, personal communication, October 9, 2020).

Providing direction is not simply a directive function but involves harnessing and channelling all efforts in the same direction. In some situations, this can be more of a coordination function. This particular function may not come easily to some. The key to providing effective direction is good sense-making, followed by sound decision-making. These prerequisites may not be possible under the circumstances. In some extreme contexts, having a sufficient understanding of all those factors necessary to provide sound direction might come too late to make a

difference. During Kaikōura, local direction on the likely impact of a possible tsunami was made in advance of the most accurate information. Having waited for this would have left it too late for people to evacuate if necessary (Interviewee 1 - Controller, personal communication, September 30, 2019). A failure to be decisive in these circumstances, is in effect, a decision to do nothing.

Providing understanding, assurance, and acknowledgement

This capability was not a universally raised factor, however, the examples provided were sufficiently powerful to warrant inclusion. When asked for the most profound leadership lesson observed from several extreme contexts, one person replied, “Acknowledging your staff” (Interviewee 17 – EOC staff member, personal communication, July 31, 2020). This factor was seen as necessary for professional staff and an even greater requirement for lay staff who may be less familiar with operational task requirements, the additional challenges that come with extreme contexts, and the anxiety that comes with working in an ambiguous and uncertain environment. This acknowledgement can also be conducted at a group level. As part of the end of working day brief-back, one ECC had desk managers provide examples of how their team had made a positive difference to the public (Interviewee 10 - Controller, personal communication, September 30, 2020). This understanding was important as not all ECC staff interacted with the public, and while they were extremely busy, it was not possible to see how their contribution generated benefit in the community. Seeing positive outcomes and then celebrating these in a small way made staff feel good about themselves and their efforts. This simple action then motivated them to carry that drive and determination through the days ahead.

From time to time, disagreements arise. During Covid response operations, these frequently centred on the differing role, priorities, and planning timeframes between response partners. Examples given were given for both regional and national levels. Where presiding controllers recognised this as occurring and worked to promote understanding of each party's

perspectives, then aggrieved people could feel better about their role and contribution (Interviewee 17 – EOC staff member, personal communication, July 31, 2020). Taking this a step further, the key to understanding, assurance, and acknowledgement, is to know your team, their strengths, weaknesses, and what they need in a leader.

The most important thing is that all players just want to know their role. They want clarity about what they are trying to do and how you want them to do it. Some need more than others but, I guess that is your role as a leader to know what each player wants and how they want it delivered (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

Personal qualities and values, with which to connect with people.

Members of the public similarly were looking for key behaviours and the values that underpinned them. In particular, they sought reassurance, honesty, fairness, and transparency, although interestingly, some were accepting of “incomplete” honesty, not wanting the public to be spooked by negatively impacting management detail, where this had no direct relevancy. Here is the challenge, and this is what we are doing to address it rather than advertising spot failings. “I want my leader to be a good communicator. . . . I want someone who can, who has an understanding and can communicate with people at different levels, essentially” (Interviewee 18 – Member of the public (NZ European), personal communication, August 6, 2020).

One key aspect in the minds of staff and the public is the controller’s willingness to accept responsibility for failings in and attributed to the system.

And I said when the very first phone call came, I said I am not going to throw anyone under a bus. I said I am accountable for the system. Very, very infrequently are these things because an individual has done something and even if they did, then they wouldn't have done it with any intent” (Interviewee 26 - Controller, personal communication, October 9, 2020).

Actions like this send an immensely powerful message to staff that “the boss has got your back”, and this in itself can be highly motivating. A classic example of this was the Covid related “Thelma and Louise” situation, one of the earliest community outbreaks after the initial complete lockdown. In that situation, the controller accepted responsibility; the minister didn’t. While the press initially asked the controller if he would be resigning, the matter passed and eventually, it was the minister who felt the weight of adverse public opinion (Roy, 2020). “During extreme contexts, if the controller were to offer to resign for every failing in the system, there would be none of us left” (Interviewee 1 - Controller, personal communication, September 30, 2019).

The distributed nature of the systems diagram on page 109, necessitates relationships, and an ability to take people with you is vital, regardless of how authority is exercised. This capability is linked to credibility and communication. Why should people follow you? This situation is not about authority or popularity (although that might help), but trust, respect, empathy, sincerity, and understanding (the why, not just the what, how, and when). Relationship building is also an effect multiplier through tapping into other networks where leadership is not directly connected. Some also saw an appropriate sense of humour as useful; being able to lighten a very tense situation without being overly flippant sometimes helped put people at ease and provided a broader sense of perspective. Regardless of all other factors, at the heart of all extreme contexts is people; there lies one of the most significant challenges in balancing risk and opportunity. “This is going to sound like a contradiction to start with, but on the one hand a sense of calm and in control, yet the challenge of doing that and appearing human” (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020). Appearing “appropriately vulnerable” helps build trust in the relationship, as does respect and understanding of the people being led. “I would look for confidence, so they have got the confidence, calm, fairness, respect - that is most of the - it

has to do with a lot of fairness - for our culture” (Interviewee 25 - Member of the public, identifying as Pasifika, personal communication, September 28, 2020).

Judging by the range of responses in this area – in particular, respect and trust leading to the establishment of credibility, there would appear to be many dimensions to managing and meeting expectations; cultural, age, psychosocial, economic robustness, and status, to mention a few. It may be the same stand-up session on Covid being delivered at 1300 in Wellington, but it must meet the truly diverse needs of the sometimes-disparate sectors of the community. The same needs apply to much smaller or localised extreme contexts. Something, so aptly put by one controller, “And I realised that old saying about leaders - people won't remember what you said, but they will remember how you made them feel” (Interviewee 26 - Controller, personal communication, October 9, 2020).

Being an effective communicator

At the heart of the Leadership Capstan in Chapter seven is communication. This aspect featured prominently in each interview, regardless of whether the people responding were leaders, staff, members of the public, or the media. In addition to the message itself, effective communication was a window through which people could observe the values and characteristics of leadership. This includes their vision, strategy, understanding, honesty, integrity, and confidence; all key factors enabling others to make important calls related to their continuity and circumstances. One point that professionals sometimes overlook is conveying the message in plain, concise English, in terms that the recipient can understand. Too often, explanations use acronyms not understood by all. On other occasions, people use more formal language to provide direction e.g., a senior military commander directing junior sailors to remove the guano from the parade ground, when the term “bird shit” would have been more appropriate (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020).

Rather than simply transmit (as a process), leadership needs to consider the impact of their message through the recipient's eyes and use every means possible to ensure the message is received and actioned. In this respect, the function could more aptly be called influence.

A shotgun approach (hitting everyone) is necessary to ensure no one slips through the cracks, and this may require some uneasy alliances. Many controllers have vivid memories of occasions where media interviews have not gone to plan, however, the media message gained through the interviews was not to be afraid of journalists but to recognise they too have a job to do. As previously stated, one controller seized on this during a significant earthquake event and embedded a journalist with links to social media inside the EOC. They did not have access to the operations room but operated from a closed office nearby, where staff provided a running update on what was occurring. After several days, as operational factors diminished in importance, the journalist conducted several personal interest stories, adding to the public's understanding of what happened behind the scenes during an extreme context (Interviewee 1 - Controller, personal communication, September 30, 2019; Interviewee 11 - Senior Journalist, personal communication, August 12, 2020).

Communication in the eyes of the recipients

Media

One of the key points made during the interviews concerned the role of the government communications team (or Public Information Management desk, to give the CIMS term). The impression was that these people saw themselves as the gatekeeper rather than as a facilitator of information. A helpful analogy is the old-style security guard at the gate of an institution versus the concept of a chief reception officer. For many people outside the response, the communications team is the interface between leadership and the public.

“They never really answered our questions and fobbed journalists off elsewhere. Thus, I felt they were unhelpful. . . . It is my job to let people know what is happening” (Interviewee 11 - Senior Journalist, personal communication, August 12, 2020).

The criticism, however, does not apply to all communications staff. Some have proved remarkably creative in getting messages across. During one particular storm where airborne trampolines were becoming a significant hazard, hitting pedestrians, cars, and powerlines, a senior communications advisor, when discussing the matter with the controller, said, “leave it with me; I will draft something in your style.” He then crafted an over-the-top and facetious release, likening the situation to Mary Poppins and her umbrella. Some EOC staff were appalled by the contents, however, the controller recognised the style used and immediately released it. The resulting message proved both effective at a local level (“Trampolines are blowing around Wellington, and Civil Defence is hopping mad,” 2017) and was picked up by wider news syndicates, eventually spawning two cartoons in national publications. Several years later and the controller concerned is still remembered by some locals for his trampoline remarks (Interviewee 1 - Controller, personal communication, September 30, 2019).

Public

For many members of the public, communication channels are their portal into the mind and actions of leadership and their understanding of the context. They do not just want a technical competency but also an emotional one. “Someone who can hold their space with grace” (Interviewee 19 - Member of the public, identifying as Māori, personal communication, August 20, 2020). As such, particular needs include transparency, trust, consistency, action(s) to ameliorate the impact of the context, and leadership modelling the appropriate behaviour.

One key point sometimes overlooked when there is competing direction is that people tend to follow the guidance of those people who are credible in their eyes and whom they trust.

Sometimes it is necessary to seek out these (middle-people) influencers and recruit them to the cause.

Being an effective listener

Communication is a two-way process and includes both transmit and receive functions. This last aspect is frequently overlooked, the importance of which was highlighted during a community engagement.

When I was retired from Civil Defence, I went down to *(name removed)* city, had drinks one evening to say thank you and one of the ladies who was in one of the community groups who were having real problems with the council. They lived out in the eastern suburbs and were having real trouble getting the mayor and council to understand their circumstances. So, they came to me and said can we meet with you once a week, say Wednesday at 7 o'clock - we want to share with you the problems we are facing in our community. I said, yeah, we can do that. And they duly turned up every Wednesday night, and I took copious notes in my notebook and said, yeah, we can do that. And I said to her at the reception as I was leaving, you know all those notes I took; I don't think we actioned any of those, and she said, *(name removed)*, do you know what, it didn't matter. And I said, why didn't it matter? Because what mattered to us was that we were having a conversation with you, which negated the lack of connection with the council. That was the empowerment, not the fact that you had unblocked the drains (Interviewee 9 – Controller, personal communication, March 8, 2020).

Being an effective listener is not limited to listening to the public. In an HQ or EOC operating with a staff system, having delegated the functions and tasks, the collective power of the staff must be effectively harnessed by incorporating their recommendations into decision-making. This capability requires careful listening, knowing what questions to ask to draw out sufficient

information to make the best decision at the time, and the confidence and understanding to justify their decision. “I would be interested in their ability to be able to take advice, make a decision, and be ready to be challenged” (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

In his academic paper on the role of leadership in problem-solving (Grint, 2008, p. 13) makes the differentiation between leadership, management, and command by stating:

A Critical Problem, e.g., a ‘crisis,’ is presented as self-evident in nature, as encapsulating very little time for decisionmaking and action, and it is often associated with authoritarianism – Command (Howieson and Kahn, 2002; Cf. Watters, 2004 (sic)). Here there is no uncertainty about what needs to be done – at least in the behaviour of the Commander, whose role is to take the required decisive action – that is to provide the answer to the problem, not to engage processes (management) or ask questions (leadership).

As indicated in the examination of the literature contents on page 22 and the discussion on exercising authority in Chapter five, the art of listening is not restricted to a leadership style.

Senior military officers interviewed admitted that they didn’t have all the answers in a command setting. One spoke of the frequency with which senior officers deliberately avoided giving first up opinions to ensure staff advice was untainted by any confirmation bias (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020).

Another with an impressive operational background spoke of:

The importance of having the confidence to listen rather than speak when it is time to learn before you make a decision, this importance of leadership and a lot of people make this mistake, including my own until I started reading about different approaches to leadership is this evolution of a leader who has come from technical expertise, holding onto the false notion of having all the answers is the key to being successful

when as you transition out of technical expertise when it is impossible to be a technical expert, let's say in aviation because you are not doing it anymore and the longer you hold onto that warm impossibility, to transition into that area which is having the right questions, is more important. And at the operational leadership level, knowing when the questions must stop and the decisions have to happen (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

The key to optimising listening capacity is having an effective response manager or chief of staff. Their job should be to structure EOC or HQ interactions, allowing the commander/controller to listen, consider, and question before making any important calls.

One aspect of a mature listening environment is the use of a mentoring function. The military does this during some major exercises, appointing a recently retired commander to mentor the Exercise Commander as part of the personal development process (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020). To be effective, however, the mentoring relationship must be a personal one. Retired US Coast Guard Commandant Thad Allen (and controller appointed to lead the Hurricane Katrina response after the initial leadership failure) refers to this as 'peerage' or the network you use for advice, support, or additional perspectives.

Leadership is indeed lonely. There are times when you can't bounce questions and concerns off your boss or your trusted subordinates. Your colleagues in the organisation may be too close. Your spouse may be too eager to take your side. Turn to someone who has been in a situation similar to yours, who can offer unvarnished commentary. You know this person to be fair, honest, and trustworthy. Someone who has been in a similar situation is more likely to see what you are missing – and won't be afraid to tell you. Look for peerage before you need it. In high stakes, high-stress situations, it is an invaluable resource. It is also a precious gift you can provide other

leaders riding through a crisis of their own (Admiral Allen as cited in Marcus et al., 2019, p. 253).

Experience

Experience was a factor raised by many, both controllers and some members of the public.

Someone with relevant experience dealing with emergency management and preferably they had been through a disaster response in the past, certainly that they had planned for it, but planning is not the same as responding so that lived experience is essential because you learn from it as well (Interviewee 21 – ex-City Mayor, personal communication, August 27, 2020).

This experience is a given for many people involved in extreme contexts, e.g., military, police, and FENZ staff. They all have vertical recruitment systems, with inexperienced people coming in the bottom and passing through development pipelines that groom people for more demanding appointments (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020). For emergency managers, without the same level of workforce planning, recruitment is horizontal with a degree of career self-management. While several senior emergency managers have previous military or para-military experience, the modern emergency manager is just as likely to come through a tertiary institute-based programme, supplemented by on-the-job training and nationally coordinated development (Interviewee 1 - Controller, personal communication, September 30, 2019). What appeared to be lacking was a knowledge bank where learnings could be documented and shared. The genesis of this research (leadership in extreme contexts) is a previous understanding of when, where, and who functions, a lesser understanding of the how, and almost total ignorance of the why. Successes need to be understood within a context. It is better to learn from someone else's failures than to repeat them.

It is even better to experience failure in a safe environment, hence the value of training and exercising. This approach is something that sportspeople understand and practice religiously

(Woolmer et al., 2008). To perfect a reverse sweep shot, it needs to be practised in an environment that best resembles the contextual elements experienced in a real game. Similarly, notwithstanding experience in real-life extreme contexts, response teams, including the leadership, need to practise in situations that replicate realistic scenarios. As previously indicated, the military takes this a step further, assigning an experienced senior operational commander to mentor leadership during major exercises. They also assign standing exercise control staff to put operational units through a graduated series of challenges of increasing intensity to bring them to an accepted standard. Those in military operational leadership positions will likely have experienced the process several times throughout their careers, in various roles of increasing importance, thus giving them depth and breadth of experience (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020). All knowledge has a foundation in curiosity. This situation then poses a challenge as after-action reports are discoverable documents. Notwithstanding a compelling case for sharing learnings, people will feel reluctant to contribute if the contents can make front-page news. The first two all-of-government Covid response reports (Kitteridge, Valins, Holland, & Carter, 2020; Roche & Simpson, 2020) appeared relatively shallow, talking around the issues, and looking more at management factors. But then, the review panels seemed to be light on leadership in extreme context experience. There may well have been a more comprehensive briefing provided to a more limited audience.

Professional smarts

A capability repeatedly raised by people of different backgrounds was an innate knowledge or understanding of your craft and role, plus the context in which you operate. "I think there has to be a huge element of (*sport named*) smarts, (*sport named*) brains and match reading ability, gut instinct" (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020). This capability explanation was taken a step further by a member of the public. "Someone that knows about our history and where we have come

from. I think that is really important, to know how to move forward, that is inclusive of the whole nation and not just . . .” When asked what sort of history, they replied, “Probably even pre-colonisation, because - simple, we were covered in trees, and now our rivers are full of logs after a - simple. It is not rocket science. Here we are, you know. A history of the Whenua and how to make - mend it (Interviewee 19 - Member of the public, identifying as Māori, personal communication, August 20, 2020).

For those leading in extreme contexts, this requires a degree of professional knowledge, understanding the relevant legislation, understanding how partners operate, supply chains, infrastructure networks (particularly lifelines), and hazard-response prioritisation (as explained on page 275). Most importantly, leadership also needs to understand which trigger points initiate cascading outcomes in the manner of Effects Based Operations (described on page 62) plus those factors relating to people.

[Teamwork/Coalition management](#)

While this capability was not a significant factor raised in interviews, the need for specific competencies in this area was highlighted during the chapter on leadership as a system. The multitude of staff, partners, governance bodies, and the public requires an appropriate mixture of governance, command, leadership, and management approaches designed to take the team/coalition in the desired direction at a pace commensurate with the contextual demands and the mood of the people. This corralling of the participants, harnessing their motivation and channelling it for the benefit of all, is one of the great leadership challenges, as evidenced during Covid. In scholarship, this is often known as meta-leadership. Frequently, this is pitched as a modern alternative to command and control, however, the function should be seen as complementary, as part of a suite of approaches as promoted in Chapter five.

In addition to the primary operational leader, there are other key leadership roles in most extreme contexts, one of the most essential being politicians or those in governance roles. In

the public's eyes, this is a critical role as this is the/a person elected by the community they serve and someone the public looks to for reassurance and direction. Yet there appears to be no training/development for these people to enable them to operate effectively during extreme contexts, in the same way that controllers receive targeted development (Interviewee 1 - Controller, personal communication, September 30, 2019).

To be effective, the demeanour and messaging provided by both operational leaders and politicians need to be consistent and complementary (they do have quite separate and distinct roles), albeit, in the public's eyes, there is a blurring of who is responsible for which functions.

A spokesperson, a reliable source of information, someone to calm their nerves and to be open and transparent. Basically, you are the person with that helicopter view, the bridge between the officials and the public. People know you and therefore want to hear from you . . . being calm, being rational but being able to listen, being empathetic, being honest, and an ability or willingness to work hard and to reach out and find as much information as possible and to convey it in the most appropriate light
(Interviewee 21 – ex-City Mayor, personal communication, August 27, 2020).

Capability Model

Understanding the composition of the capability components when contemplating a development programme is essential; examining the components, as a workflow, to form a model complete with linkages is even better. Regrettably, the research as designed didn't allow for this. Nonetheless, this has been attempted by the thesis author based on interview content and practitioner experience. The result is somewhat esoteric and should be considered indicative rather than definitive, however, it points to the synergies necessary to create the overall effect.

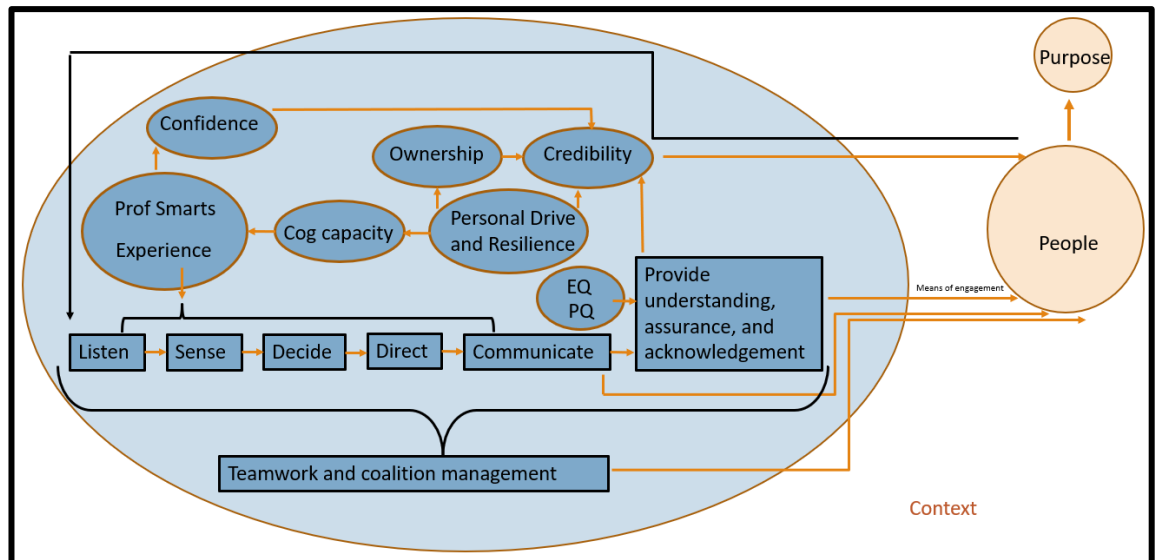


Figure 45 Leadership Capstan - Capability Layer

Reconciliation against previous scholarship

In the literature review, the validity of capability lists was challenged where these were produced largely on input provided only by leaders in extreme contexts themselves. To test this further, the capability findings of this research have been matched against previous scholarship. While there are several such lists in existence, the following were considered to provide a diversified benchmark (comprising UK and USA derived samples, from emergency management, business, and the military):

- a. Crisis management competencies: The case of emergency managers in the USA, Van Wart and Kapucu (2011). In this study:

Respondents were overwhelmingly male (fourteen to three). They were evenly distributed between 35 and 65, with only one being less than 35. The range of education varied from five with less than a bachelor's degree, three with a BA, six with a master's, and three with a PhD. The average tenure in government was 21.6 years, with many of them having had emergency management experience outside government. All supervised employees, with five, supervising over fifty. The average

number of nationally recognized disasters respondents had participated in and specifically identified was 3.8 (Van Wart & Kapucu, 2011, p. 500).

- b. Interwoven Leadership: The missing link in multi-agency major incident response (Devitt & Borodzicz, 2008). This study was conducted using unstructured interviews with senior officers and officials from United Kingdom agencies, contributing strategically in a crisis (profile of and number of interviews undisclosed).
- c. Linking crisis management and leadership competencies: The role of human resource development (Wooten & James, 2008). In this study, software screened news stories to determine crisis leadership competencies from twenty selected case studies involving US companies.
- d. A historiometric analysis of leadership in mission-critical multiteam environments (DeChurch et al., 2011) - a historiometric methodology testing nomothetic⁷ hypotheses about personal thought, emotion, and behaviour by applying quantitative and objective techniques to data concerning historical individuals,
- e. Personality and command ability, (R. Flin & Slaven, 1996) - an evaluation of (oil platform) Offshore Installation Managers during simulation exercises. Data was obtained from psychometric testing and performance ratings on the course.

For completeness, a general description of those interviewed as part of this research is on page 54. A more descriptive profile is contained in Appendix C.

⁷ Nomothetic refers to the establishment of laws or generalisations applying to everyone

Van Wart	Devitt	Wooten	DeChurch	Flin	Pepperell
Emergency Management (USA) 2011	Multi-agency major incident response (UK) 2008	Crisis leadership: screened news stories from twenty company case studies (USA) 2008	Mission-critical multiteam environments (USA) 2011	Offshore Oil Installation managers (UK) 1996	Emergency Management, military, business, and sport 2020
Willingness to assume responsibility	Presence		Taking the initiative, establishing roles and responsibilities	Takes command	Ownership
	Credibility			Calm	Credibility
Motivating, resilience	Effective stress handling, moral courage	Promoting org resiliency			Resilience and drive
Analytical skills	Cognitive skills				Cognitive capacity
Self Confidence	Confidence				Confidence
	EQ				EQ
	Accepting reality quickly	Sense-making	Analyse situation, mission analysis, gather info	Assesses situation, obtains info, verifies info, manages flow of info	Sense-making
Decision-making, decisiveness	Decision-making, pragmatism, creating options, strategic thinking, and identifying key issues and priorities.	Decision-making under pressure, risk-taking	Including a need to understand the big picture	Deciding	Decision-making

Van Wart	Devitt	Wooten	DeChurch	Flin	Pepperell
Emergency Management (USA)	Multi-agency major incident response (UK)	Crisis leadership: screened news stories from twenty company case studies (USA)	Mission-critical multiteam environments (USA)	Offshore Oil Installation managers (UK)	Emergency Management, military, business, and sport
Articulate vision and mission, flexibility, delegating	Delegation, leadership style, negotiating, influencing	Acting with integrity	Orchestrate actions, adaptive unity of command	Implement action plan	Providing direction
					Providing understanding, assurance, and acknowledgement
Networking and partnering social skills	Engaging with politicians, media, and partners, ethics	Issue-taking			Personal Qualities and values with which to connect
Communication skills	Communication skills	Communicating effectively		Communicates	Effective communication
	Stakeholder awareness	Learning orientation		Listens, seeks feedback	Listening
	Training and exposure to incidents				Experience
Operational planning	Professional and technical expertise, meeting skills	Organisational agility	Planning	Flexible plan, allocate resources	Professional smarts
Team building	Meeting stakeholder needs				Teamwork/Coalition management

Table 27 Reconciliation of leadership competencies

Reconciliation commentary

The thesis capabilities (above) were compiled from the interviews conducted as part of the research, from observation, and findings arising from previous chapters on the leadership system, exercising authority, case study comparisons, and the Leadership Capstan. The comparison with previous scholarship was conducted afterwards. No formal taxonomy was used to categorise the capabilities. The descriptive phrases chosen merely best reflected the sentiments expressed in the chapter findings. No attempt was made to group personal qualities separate from task-oriented capabilities.

The majority of the findings appear consistent with previous scholarship, particularly the ownership function, sense-making, decision-making, providing direction, having the necessary professional smarts, and communication. Overall, the research findings were most consistent with Devitt and Borodzicz (2008), possibly because of cultural, scope, and methodology factors (This study was conducted via unstructured interviews with senior United Kingdom personnel contributing strategically in a crisis). Looking more generally across the entire research samples, the following capability discrepancies were unexpected and therefore warranted further examination:

- a. Emotional Intelligence. The key to agility when exercising authority, coping under stress, managing the people factor, and adapting as appropriate to counter context intensifiers is self-awareness, self-regulation, empathy, social skills, and personal motivation, all aspects of emotional intelligence. Before you lead others, it is essential to understand yourself and how your actions impact others. This aspect did not appear to feature as a critical factor in many of the other studies.
- b. Experience. This was an attribute that was consistently raised throughout the interviews, particularly among those who had held senior appointments, whether operational or corporate. It featured less prominently with members of the public, compensated by the

broader need for credibility. It may be that this was considered in some studies as a component of decision-making. However, experience is also a significant factor in resilience, ownership, sense-making, communication, professional smarts, and providing direction, sufficient to warrant being a capability on its own.

- c. Providing understanding, assurance, and acknowledgement. This aspect could be covered under emotional intelligence; however, factors present during extreme contexts warrant highlighting this point (even after amalgamating the two capabilities). By definition (Hannah et al., 2009), extreme contexts involve imminent risk of significant physical, psychological, or material impacts (e.g., physical damage, loss, or destruction) to society or an organisation or its constituents. It is complex, the situation dynamic, and everything occurs within a fog of uncertainty. Leadership in these circumstances is challenging, particularly managing the holistic outcome(s) and integrated nature of all the components of the Leadership Capstan. When people experience, at the very least, major inconvenience, and at worst, major tragedy, leaders sometimes find themselves managing a losing situation. There are several other factors here worthy of note. There may be an element of personal risk in certain circumstances, for example, military conflict, counter-terrorism operations, and rescue operations. And, of course, acknowledgement should work both ways. How does society recognise the efforts of responders to an emergency?
- d. Cognitive capacity. This capability was highlighted in only two of the previous studies examined. The heightened sense of comprehension and analysis was raised by several of the interviewees, including those involved in leadership development. Put simply, most people can drive a car at one hundred kph on the open road; a smaller subset can drive a racing car at speeds of over two hundred kph, where the driver is experiencing intensifier-like inputs from the context.

- e. Confidence. This capability, too, featured in only two of the previous studies. Yet it is considered an essential enabler of credibility and critical when applying experience, communicating, providing direction, and generating teamwork.
- f. Credibility. This capability was a feature in only one other study, although hinted at in another. Simply put, in uncertain times, why would you follow the direction of, in some cases, a stranger? And why would you choose that person beyond the noise generated by competing influencers, commentators, well-meaning, or prominent people? Credibility is a capability that exists in the eyes of the beholder, so more important than intent is how resulting decisions, actions, and motivation, are perceived by those people being led.
- g. Teamwork and coalition management. This capability may be inherent in some of the other capabilities highlighted in previous research, however, careful examination of Figure 20 Systems Approach “as is” model, on page 109, reveals a diversity of organisations involved in a response. The chapter on exercising authority highlights the challenges associated with a hybrid meta-leadership approach.
- h. Many of the capabilities previously highlighted during previous research, included task-oriented functions – planning, resourcing, monitoring, and meeting skills; and while a requirement of all forms of leadership, these might more appropriately form part of a generic BAU organisation development programme or be covered under CIMS training. They did not feature as discrete functions identified when considering the much smaller subset of “leadership in extreme contexts.”

Operational response versus BAU leadership

Those criteria denoting suitability to lead in operational environments is a vexing question that has challenged appointing authorities throughout the generations. Even within the military, a sector assumed most capable of producing leaders, performance jumping the BAU/operational (peace versus conflict) divide has been mixed. According to Storr (2009), when Lord Roberts assumed command, early in the Boer war, he removed five Generals, six brigade commanders,

and twenty Colonels from their operational appointments after poor outcomes. Of the seventeen formation commanders in the British Expeditionary Force, sent to Europe at the outbreak of World War II, five disappeared from the record books (for reasons unknown), six were “put out to pasture” (found less-demanding appointments), and one was captured. Only five went on to further honours in operational roles. Of the one hundred and forty officers in command of Royal Naval vessels in 1939, only forty were still at sea a year later. The reasons for this are many and varied, but it suffices to say that the British had challenges producing or selecting effective senior war leaders from its peacetime forces. What are the factors present that allow some leaders to flourish in the more demanding circumstances?

Responses to elicit the differences between leadership in BAU (or corporate appointments) and leadership in extreme contexts were varied. Some members of the public thought a response leader needed to be detached emotionally from the context and become a deliverer, more transactional than transformational. However, the response from controllers/commanders centred more on being able to perform under pressure (using the Leadership Capstan model, operate effectively, take account of context intensifiers, and have a toolbox of context attenuators to apply in response). Related to this was the ability to make effective decisions in an environment where appropriate sense-making capacity was diminished. Other interview content stressed higher levels of personal resilience when operating in the spotlight of others, leading a team similarly imbued with the same higher-end capabilities, an ability to operate in an environment characterised by volatility and ambiguity, and possessing moral courage (taking principled decisions for the benefit of society notwithstanding the personal cost).

Using the Leadership Capstan as a model and interpolating for those findings earlier in the thesis, the differences appear to occur at several levels:

- a. In addition to the linear, purpose-led capabilities outlined earlier in this chapter, ownership, credibility, personal resilience and drive, cognitive capacity, and decision-

making; leadership in extreme contexts must perform these functions whilst also managing a dynamic, complex, uncertain context. This requirement means coping with those intensifiers being experienced (compression of time and space, complexity, lack of clarity of information) and applying relevant attenuators (strategy, messaging, or decisiveness). That is not to say that BAU leaders are not influenced by intensifiers, merely to a lesser degree. Certainly, BAU (business) leaders are frequently required to make sense of uncertain market environments.

- b. In addition to effective self-management and (immediate) team leadership, leadership in extreme contexts must often manage the interaction and impact with other wider groups, be they response partners, media, or members of the public. This outcome may require an array of approaches (e.g., establishing credibility with immediate team members may be through separate mechanisms to establishing credibility with response partners or the public).
- c. Leadership in extreme contexts must have the capability and capacity to use a broader range of means of exercising authority. People may be a manager in BAU, but during an extreme context, they must learn to use leadership, command (executive), management and governance skills as appropriate, to connect, harness, and channel (different groups of) people in the desired direction.
- d. Leadership in extreme contexts requires a different mix of professional smarts to BAU (and vice versa). For example, the leader of a response operation may have less need for financial literacy than a corporate leader during BAU.
- e. A rules-based environment is well suited to less dynamic BAU conditions. Leaders in extreme contexts must be comfortable operating in more volatile, complex, uncertain and ambiguous situations guided by little more than a mission and intent.
- f. Leadership in extreme contexts will often mean leading across a more diverse operating environment with multiple (and sometimes disparate) teams. This can be in a directive

capacity, although noting the disparate entities in Figure 20 Systems Approach “as is” model on page 109, it is more likely to be in a meta-leadership capacity involving, influencing, coordination, and compromise.

Developing leadership Capability

It was evident during the interviews that the people identifying as having led during extreme contexts were not a part of a homogeneous grouping. Some were male, others were female; the majority were professional operational leaders, while others were laypeople with regular BAU roles who transitioned to response leadership roles in extreme contexts. Some had a police background or experience in a fire environment, others had served in the military, some were doctors by profession, and others had a background in emergency management or diplomacy. Their knowledge, skills, and personal attributes were quite different. Consistent with the western propensity for categorisation, some mentioned their Myers Briggs personality profile as part of the interview. One was an ISTJ (Introverted, Sensing, Thinking, Judging, and labelled the inspector. According to the profile: able to keep their emotions in check, are pragmatic, and quiet. They prefer organisation in all aspects of their lives - employment, family, recreation. ISTJ people respect loyalty and emphasize traditions). Another controller was an ENTJ (Extroverted, Intuitive, Thinking, Judging, labelled the Commander. According to the profile: One of the least common of the 16 profiles, known for their empathy, diplomatic skills, and passionate idealism) (Myers and Briggs Foundation, 2021).

This level of diversity, along with the range of factors forming the Leadership Capstan (e.g., the many and varied ways of establishing credibility), means that while specific capabilities are required, there is no set formula for how those capabilities should be discharged to produce an acceptable outcome. One person may be an effective communicator by their reasoned and logical message, another may be seen as authentic in the people's eyes, someone different again may be an acknowledged expert, and another familiar or popular. In a similar vein, the means

for achieving effective leadership in extreme contexts should be non-prescriptive, with an ability to mix and match styles and approaches to achieve the desired effect, a prerequisite. This approach is similar to other leadership/management frameworks. For instance, the Baldrige Performance Excellence Framework ("Baldrige Performance Excellence Program," 2021), as promoted by the New Zealand Business Excellence Foundation (NZBEF), the US National Institute of Standards and Technology (NIST) and the European Foundation for Quality Management (EFQM), comprises several components. The framework, however, is non-prescriptive as to how they should be conducted. A world-class organisation displays the following attributes, how does your organisation accomplish this? Thus, organisations can benchmark themselves against world-class practices and outcomes (or have this done for them by a framework affiliated body). Baldrige is not without its critics; however, it recognizes there is no single path to management performance, particularly with leadership being less prescriptive than management.

This situation raises the obvious question. Does leadership in extreme contexts require an up-scaled version of leadership, in a linear manner of learning to run, having previously learned to walk? Take a good BAU leader, apply further development, and they should be good to go!

Does the reverse apply? Can effective crisis leaders also work well in a BAU environment?

The answer to this is marginally outside the scope of the original research questions. To be definitive, it would require further input from psychologists and human development specialists rather than the practitioners that primarily comprised those interviewed as part of this research. Indeed, at least one BAU leader identified didn't make the grade as a controller identified through the research.

Some leaders rise, and some don't. . . . We had one guy, I think he was listed as a controller. . . and we took him off eventually . . . because he just didn't have the right attitude. He was the rabbit in the headlights in a crisis. He was technically very good and

a very capable member of the team, but he wasn't capable of being a controller. So, I think there is something around attitude, and I think there is something around strategy (Interviewee 6 - Council Chief Executive, personal communication, December 11, 2019).

Not all good operational leaders adjust to leading in a more corporate environment. There are different skills required for a start – reading and understanding financial documents, and corporate nous, and some find it hard to adjust from command to a leadership or management environment (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020).

Some people can undertake operational roles, others are suited to BAU/corporate roles, while some are sufficiently agile to meet the capability requirements of both. What became apparent from the research was that there is nothing linear about the leadership capabilities required in extreme contexts. There is a symbiotic relationship between key Leadership Capstan components, leadership, context, and people. Take a leadership action; this changes the context, with consequent impacts for people, which, in turn, may necessitate further leadership actions.

. . . some of those core capabilities have similarities to a day-to-day management role. . . . can I initiate and create a positive relationship. That is a core skill, whether you apply it in a manager's role or you apply it as a controller in a response, but typically, what is sometimes different is how much of each of those things are emphasised in the particular role or context. . . . If someone, for instance, is really, easily rattled, they're quite reactive under pressure, then they might be quite good at relationships, but that reactivity under pressure is probably going to undermine those relationships (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

The analogy above of learning to walk and then run is, therefore, less appropriate. A more apt metaphor is the difference between catching a ball and learning to juggle or the difference between moving an object and playing chess.

This then leads to the question of whether these capabilities must be selected for or whether they can be taught. This, however, is largely outside the scope of the research and would need additional psychology input.

Chapter Summary

This chapter sought to identify those capabilities inherent in and required of leadership during extreme contexts. This task was achieved from interviews from a very broad and diverse cross-section of society, along with capabilities derived from analysis conducted in previous chapters of this thesis.

- The outcome shows several personal attributes and a series of task-oriented functions, all capable of accommodating various delivery styles. These capabilities were then reduced to an indicative model to explain how the components interact to create an effect experienced by those being led.
- The differences between the findings in this chapter and those arising from the previous scholarship are surprising. While the reconciliation on page 298 attempts to explain and justify the differences, the relative absence of emotional intelligence, experience, cognitive capacity, confidence, and credibility from previous studies possibly reflects the benefits of this research's multi-dimensional approach.
- The resulting capability list will pose a considerable challenge for those intending to use it as input for development programmes. Extreme contexts are unable to be solved in a laboratory environment and reinserted back in real life. Accordingly, the ability to create a real-world simulation environment sufficient to enhance experience, establish credibility, as

well as practice decision-making in a connected, uncertain, dynamic environment, where solutions must meet the diverse needs of people, will prove quite the challenge.

- Leadership in extreme contexts is not a higher or more advanced form of corporate or BAU leadership. It is merely different, requiring some specialist skills, particularly an ability to absorb and apply intensifiers and attenuators as appropriate, plus greater agility to engage and meet the more diverse needs of those being led.
- For completeness, what is required to effectively deliver those capabilities required of leadership during extreme contexts is a statement of outcome. What is the standard or effect to be achieved? This critical aspect is covered in more detail in Chapter nine.

Blank

Chapter 9: Thriving through Extreme Contexts

Introduction

The purpose of this chapter is to examine content generated as part of this research to determine whether there are common threads to achieving higher-order outcomes following extreme contexts. Can people and society leverage such unfortunate events to thrive as distinct to merely survive?

In addition to addressing the last of the research questions, this chapter appeared a logical extension of the thought processes associated with the thesis. Chapter four examined the entities involved in the leadership system during extreme contexts (the who and what), Chapter eight examined the capabilities required of leadership (the how); what was missing was the target standard to be achieved (part of the why).

The scholarship discovered in the literature review was rather vague on the standard of response outcome, although the word resilience frequently appeared, as did the term, recovery (Doyle et al., 2015; Paton et al., 2014; Seville, 2016). The term recovery, however, is silent on a definitive standard. Is this to be recovery to a degraded version of what existed previously, recovery to pre-existing conditions, or recovery leading to a different or better outcome? Hence use of the term thriving, as exemplified in the title of the book: “Resilient Organisations – how to survive, thrive and create opportunities through crisis and change” (Seville, 2016).

In support of this, one definition of leadership clarified the standard “to create the conditions for people to thrive, individually and collectively, and achieve significant goals” (Pendleton & Furnham, 2016, p. xxi).

Definition

A simple dictionary definition of thriving is to grow, develop well, prosper or flourish; something we all aspire to, either individually or collectively, as a family, organisation, community, or society. When deconstructed, however, the term has much more meaning and comprises several key elements which we would expect to see as enablers in a thriving outcome.

Thriving is the *ultimate fulfilment in life*. In examining definitions of thriving from several research teams, Brown and colleagues (Brown et al. 2017) arrived at the common elements that thriving refers to *the joint experience of development and success*, experienced globally as in an individual thriving in all areas of their life or specifically such as someone thriving solely at work. . . . Thriving can occur following adversity or *opportunity which distinguishes it from resilience and growth* which primarily follow adversity (Brown et al. 2017; Feeney and Collins 2015) and from flourishing which tends to emphasize characteristics of positive well-being (Keyes 2002). While there is indeed overlap with these constructs, thriving emerges as a construct especially well-suited for the versatile nature of character strengths and their many healthy functions therein (as cited in Niemiec, 2019, p. 3). (Emphasis added).

The inference is that thriving as a result of extreme contexts is not simply a product of resilience or growth arising from an event and its impact but involves the concepts of development and success, and on occasions, opportunity. Niemiec (2019) then provides a more explicit definition, using a model comprising virtues, character strengths, contexts, and situational themes, condensed into six essential functions:

- a. Priming (strength awareness and use).
- b. Mindfulness (the relationship between attributes and an awareness of the present reality).
- c. Appreciation (recognition of the value-added).

- d. Buffering (those actions providing a shield to further problems).
- e. Reappraisal (an explanation of the compound and progressive nature of the problem).
- f. Resilience (capabilities used to recover).

Eastern versus western approaches

The above explanation is consistent with the western propensity to categorise or create rules to better understand cause and effect (Nisbett, 2019). By contrast, Chinese culture is heavily influenced by Taoist, Confucianist, and Buddhist philosophies, which promote harmony and deters idle speculation.

“There is an ancient Chinese story, still known to most East Asians today, about an old farmer whose only horse ran away. Knowing that the horse was the mainstay of his livelihood, his neighbors came to commiserate with him. “Who knows what is bad or good?” said the old man, refusing their sympathy. And indeed, a few days later his horse returned, bringing with it a wild horse. The old man’s friends came to congratulate him. Rejecting their congratulations, the old man said, “Who knows what is bad or good?” And, as it happened, a few days later when the old man’s son was attempting to ride the wild horse, he was thrown from it, and his leg was broken. The friends came to express their sadness about the son’s misfortune. “Who knows what is bad or good?” said the old man. A few weeks passed, and the army came to the village to conscript all the able-bodied men to fight a war against the neighbouring province, but the old man’s son was not fit to serve and was spared.” (Nisbett, 2019, pp. 12-13)

In the example above (in western terms), the determinant of the outcome is the context. Something can be an opportunity or a challenge, depending on the circumstances before, during, and after a point in time. This alternative approach (to western thinking) warranted further investigation.

There is a popularly accepted notion that the Chinese word for crisis comprises two elements signifying danger and opportunity. John F. Kennedy allegedly repeated this in a speech delivered in 1959. Of interest, when investigating this further using scholarship search engines, the notion was revealed as fallacious, being strongly rebutted, as follows:

The explication of the Chinese word for crisis as made up of two components signifying danger and opportunity is due partly to wishful thinking, but mainly to a fundamental misunderstanding about how terms are formed in Mandarin and other Sinitic languages. The word crisis (wēijī) consists of two syllables that are written with two separate characters, wēi and jī. . . . While it is true that wēijī does indeed mean crisis and that the wēi syllable of wēijī does convey the notion of danger, the jī syllable of wēijī most definitely does not signify opportunity (Mair, 2009, p. 1).

Notwithstanding this apparent dead end, rather than rely on a western interpretation of an eastern concept, the opportunity to seek corroboration arose when the thesis author was invited to present to a group of Chinese police and customs officers who were undertaking a programme at Massey University. This group comprised six males and females of varying ages, from across China. Both the proposition and rebuttal were put to them to gain a further perspective. Interestingly, they confirmed the original proposition of crisis = danger and opportunity. The only reservation was that the officers from northern China saw the explanation as being more, danger and challenge. Was this yet another pointer to look outside traditional western culture?

Learning from History

There have been several global disasters throughout history. The Black Death in the mid-14th century, with recurrences over the next 50 years, was one. Deaths were assessed as between twenty-five to fifty million throughout Europe and more than one hundred million across the globe. The exact numbers are unimportant (for this research), except to note that the death rate

was particularly high - approximately one in two people in some locations (Bailey, 2021; Roos, 2020). What is remarkable was the post-plague regeneration that occurred over the next one hundred years. Of course, it is not possible to determine whether such development would have occurred to some degree, anyway.

The most remarkable thing about the emerging post-plague landscape was the diversity of political outcomes across Europe. Faced with a common shock, different countries responded in radically different ways. In England, the popular struggles after the Black Death led to a new form of agrarian capitalism. In France and Spain, the aristocracy entered into an alliance with the monarchy, leading to a centralisation of political authority in the absolutist state. In Italy, power remained decentralised within city-states, allowing merchant oligarchies to entrench their particular form of commercial capitalism. In the Near East, the outcomes were different still. The powerful military landlords of Mamluk Egypt pressed down so hard on the peasantry that local communities were forced continuously to till the fields and abandon their maintenance work on the Nile irrigation system, causing its canals to become choked with silt and leading to long-term agricultural decline. The Byzantine empire similarly went into its death throes following the plague, opening up a power vacuum for the Ottomans to fill, finally leading to the conquest of Constantinople in 1453. The rise of the Ottoman empire dashed European efforts to re-establish direct trade relations with the Far East. The Genoese, having lost their stronghold on the Black Sea, turned west in the hope of finding new commercial opportunities in the Atlantic. Genoese merchants soon established a firm presence along the West African coast, and eventually became heavily involved in the Portuguese sugar plantations on Madeira and the Azores. The Portuguese and Genoese turned to the forced labour of captives purchased from African emperors and warlords for the manpower to grow this labour-intensive crop – giving rise to the Atlantic slave trade. Portugal's early colonial adventures soon triggered a

competitive struggle with neighbouring Spain, culminating in the rival voyages of Columbus and Vasco da Gama. Aiming to circumvent the Muslim monopoly over the Far East trade routes, the Genoese explorer eventually stumbled upon the Americas, while his Portuguese counterpart circumnavigated Africa to find a direct route to India. A new era in world history had begun (Roos, 2020, p. 28).

There has been considerable debate amongst scholars as to the reason for the differing outcomes. Real wages and GDP rose in England during the years leading to 1500, although across much of Europe it remained constant, or fell as occurred in Ireland and Spain. Whatever the reasons for the varying impacts, those features of the previous economy and social order most certainly changed with the rapid population decline. This situation led to changes in the demand and supply for many commodities. Some seized on the presenting opportunities (peasants' revolts in China 1351-68, France 1358, England 1381, France 1382, Poland and Lithuania 1401). While many of these resulted in brutal repression, in some cases, notwithstanding this, economic and social conditions combined to change the feudal landscape irrevocably (Bailey, 2021). The change was thus characterised and driven by context (e.g., death and shortages), the mood and action of the people (revolt and movement), along with leadership response (acceptance or repression), with society finding a new equilibrium between these three components. This situation saw amongst other phenomena: market forces driving change, the management of risk versus opportunity, a degree of emancipation, and changes to community structures, all leading to thriving outcomes (for those who survived and their descendants).

Interview Data

As part of this particular research, several questions were put to interviewees. How would or should you go about leveraging off unfortunate events to thrive, as distinct from surviving?

What actions should a leader be doing to facilitate this, and do others have a role in achieving a thriving outcome?

The answers provided were not individually, particularly illuminating, but did highlight a series of themes for further consideration. These included:

Purpose

There is a need to see through the extreme context and out the other side, thereby avoiding a singular fixation with the immediate event impact and consequences. A thriving outcome is more than the stabilisation of a broken-down version of what existed previously. This higher-order outcome, however, can take many forms, both tangible and intangible (see the discussion previously included on pages 225 and 245).

“A thriving outcome requires an effective balance between risk and opportunity and being sufficiently agile to spot an opportunity and implement it in demanding circumstances. It requires higher objectives than merely sorting what is in front of you” (Interviewee 1 - Controller, personal communication, September 30, 2019).

“That is a difficult one. You need to have a vision in that case and see beyond the tragedy. . . . One of the difficult things with Covid was because you were so very much into it, there was no real vision of how this will turn out for me” (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

I would go back to that higher purpose mentality as well - do they have faith in something bigger than themselves, and have they kept coming back to that? . . . There is a particular label out of more recent research that - that type of harm, basic - I can't think of the name of it, but it is basically where, often used in military contexts these days, where people have experienced something that has really - has a deep values conflict for them and it results in a particular type of psychological harm. I just can't

remember the name of it. But military psyches do. So, I think, what are the things that are most important to you in life, what are the values that you hold, that may or may not be articulate, that are particularly transgressed by the environment, so, if I was in the same environment as you, you may experience that quite differently to me because your values are quite different - does it transgress those values or not, plays a definite role (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

Managing successful outcomes through a set of risk/opportunity-balanced progressive steps

This approach is a two-edged sword, with the principle equally applicable in the search/creation of opportunities and as a buffer against adverse impacts. Put simply, an early decision to trigger direct actions with known (or likely) consequential (second and third-order) outcomes can create a cumulative positive effect (not just positive individual outputs). Or taking decisive action to remove or mitigate a threat can avoid longer-term and possibly irreversible adverse impacts. This concept (Effects Based Operations) was explained in more detail on pages 62 and 278, but for illustration, the diagram is repeated below:

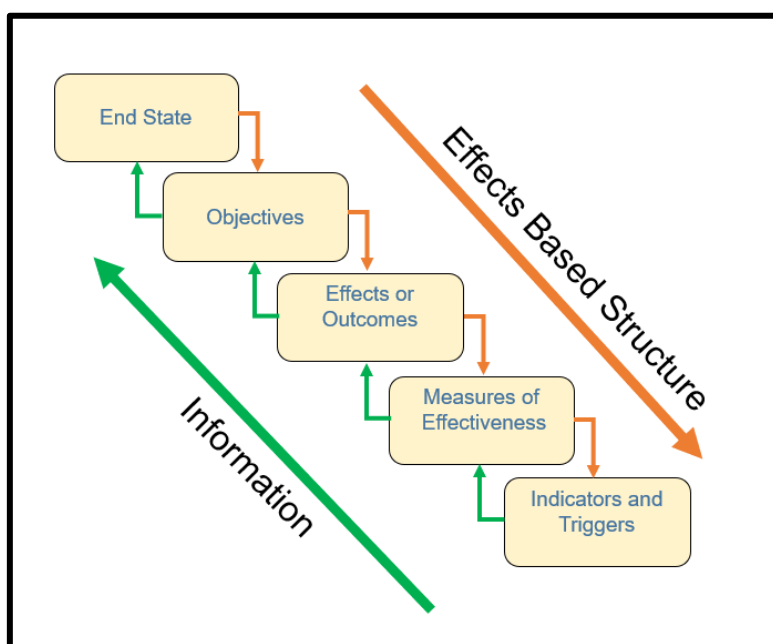


Figure 14 Effects Based Operations (repeated)

An example might be the initial action to encourage/enforce a commuter-free central business district (CBD) following an earthquake (Interviewee 1 - Controller, personal communication, September 30, 2019). As well as being an initial personal safety measure, flow-on effects include buying time to clear hazard areas, demonstrating that authorities are “taking charge,” and engendering confidence in response actions. On the positive side, allowing people access to the CBD where it is safe promotes confidence and will enable people/organisations the freedom to go about their business, seizing their presenting opportunities.

One of the decisions that did resonate with me, and it was a risk-based decision, was open the city back up for business; that the mayor made. I am sure the mayor made that in conjunction with . . . others around him, supporting and advising him but that demonstrated to me, was the right call. It was a risk-based decision, but it was the right call because we needed to get - and there was an interesting parallel that in lives and livelihoods. There is always a balance between those two, and that for me resonated at Kaikōura. Let's get the city back up and running. And I know there was a lot of pressure. What if we had had another - what if, what if. The decision was the right decision - fortunately, it was the right decision, but it worked. Now, equally, if we had had another shake and people had been walking down Lambton Quay, and sheets of glass had fallen out of windows, then. Unfortunately, the same happened in Christchurch at mid-day, and then it probably wouldn't have been seen to be the right decision (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020 - referring to actions taken in Wellington post-Kaikōura).

Of note, one of the learnings from this quote is the blurring of perceived responsibility lines between those in leadership roles. While the mayor contributed to the discussion resulting in a controlled reopening of the CBD, the (operational) decision belonged to the controller.

Other examples referred to in interviews, this time using a Covid scenario, also highlighted a risk versus opportunity approach and introduced the possibility of flow-on consequences from decision-making in the manner of Effects Based Operations (page 316).

. . . the government has had a set of tools that has allowed it to respond in a really effective way, including wage subsidies and the like, but that was on the back of years of fiscal prudence - managing, building up reserves - that can then be drawn down. . . . leadership is about thinking ahead and not necessarily, certainly not being in the world of predictions, but being in a state of preparedness that allows, and builds resilience. And so, it means we can be more responsive, not knowing exactly what is going to hit us but knowing that something will (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

And there is something about - because we have been doing some thinking about consequence management and there are consequences that you have to deal to after a crisis or after something happens but then there are also consequences that bring on their own set of risks. And what are those second and third-order risks? Who is dealing to those, and that is almost the evolution of the national security system? We have got lead agencies, we have got coordinating agencies; we have got those, but then what happens when there are cross-systems, and they are second or third down the track, and then who picks up the lessons from those sorts of things. That is a big chunk of thinking and work that needs to be done. That is sort of where the system is evolving (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

It was clear that people understood the existence of follow-on consequences. Still, it was not clear whether these had been initiated as a deliberate triggering as part of a planned strategy or whether the consequential impacts were merely an indirect, collateral outcome.

Personal and organisational growth

It may be difficult to accurately define what might be considered a thriving outcome (and this will vary depending on the people involved). However, such an outcome may be manifested through personal accomplishment and growth, as indicated by the following interviews. One of the lessons here is that people will have defined the threshold for a thriving outcome differently for the same event and circumstances. In a marathon, a thriving outcome could be winning, a podium finish, top ten placing, a personal best, a placing within a category (masters), or simply completing the event. As described in the title heading, it is personal.

This category also has much in common with the concept of antifragile (Taleb, 2012) or post-traumatic growth, the idea that something placed under stress can develop/grow in a way that would not have been possible under normal conditions. Examples here might be the metamorphism of coal to produce a diamond, the evolution of a species brought about by adverse impacts, or strength achieved through weight training (or repeated damaging actions applied to muscles). For some people, the experience of an adverse context reveals an inner strength of which they were previously unaware.

That is hard to define. I would definitely describe my experience as thriving, and a number of people noted that as well. . . . I didn't feel like I had a huge amount of personal growth through the event. I felt well equipped to handle the situation, and I suppose it was a balance between my skills, experience, and maybe intuition - how to determine what the course of action was next. So, identify and engage resources to do - resources, people. You know, get my friend to do things. So, I think there was an element of clarity, and I would describe the event as an exciting time. Not like, oh, I am excited by it but an energising sort of event (Interviewee 29 - Member of the public identifying as Muslim, personal communication, October 21, 2020 - referring to the events in Christchurch on and around 15 March 2019).

I think it is that learning from it. That continual curiosity around what you could have done better and that doesn't have to happen post the event. Something that is really crucial is if you are always asking questions on how you can get better and improving your systems, your processes. Because I think sometimes if you wait until the end of a tournament, you wait till the end of a series, it is too late to make a difference. For me, it would certainly be around that - continually looking to grow and learn and structure processes (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

I guess it still comes back to how you take lessons learned, put it into training, and how do you give people that exposure in a developmental sense. That is why when I was talking before about training, it's about trying to take them past their comfort zone, so it is not just about just making it. They have got capacity if you push them beyond what they are likely to expect. Now you might not get that right, but the idea is to push them beyond so they know more about themselves than they would otherwise do. It is a bit running, you know. People do ultra-marathons; they do it because they want to find out about themselves mentally. It is not about the running piece, it's about mental toughness, and it is the same about these sorts of things so when you get lessons learned. How do I then replicate so I make myself more aware when I get past that point? How do I make myself mentally tough or resilient in those sorts of incidents? (Interviewee 3 - FENZ Commander, personal communication, October 31, 2019 – and marathon runner).

Lessons learned

There is an effective “lessons learned” process that is then implemented. This approach requires a candid assessment of extreme contexts in their entirety (including risk management, community readiness, operational readiness, and capacity for recovery) for all sectors of society,

not merely the primary response organisation. As previously mentioned, this can be problematic as the degree of reflection and honesty required is inhibited by the openness of the official information process (Interviewee 1 - Controller, personal communication, September 30, 2019). It sometimes means that people focus on the obvious and ignore the contentious or root issues in the lead up to the event, often the provenance of those in BAU leadership roles (people responsible for decisions and actions in the lead-up to the event) or those with governance responsibilities. It can also mean that any purpose/vision designed to carry people through the extreme context and out the other side is absent from review terms of reference.

In a previously used example, the emergency management controller is responsible for community stabilising response actions during an extreme context but has no input into transport routes or the composition and home-basing of bus fleets. In a BAU example, the challenge faced by Oranga Tamariki is rooted in inequity, poverty, cultural diversity, and health deprivation (amongst other things) (Oranga Tamariki, n.d.). These are factors over which they have little control, yet they are expected to manage the downstream effects, a challenging ask.

This critical feature of thriving outcomes has linkages to Learning Theory and Constructivism (Lizier, 2021), in particular the ways people prefer to receive their knowledge and the advantages of comparing personal experience with the experience of others.

“One of the things coming from Kaikōura was the reinforcement of the facades. . . . People were more compliant to do it, rather than before because they saw the threat” (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

I think we have to be able to celebrate success as a whole and find a balance between complacency and acknowledgement that we have done something as well. So, how do we bottle that with the stuff that we know now and could have been done better? How to flip that in a way that has become lessons (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

I think we have to leverage our lessons learned, Bruce. Having really good honest debriefs are really important. Otherwise, time goes on, and we lose that. Really leveraging off - making sure you have got lessons learned at the forefront of what you are doing too. Quite often, we will leave it to the end - let's have a debrief and pick out the lessons learned, whereas it should be inclusive of the whole operation (Interviewee 24 - Commander, personal communication, September 21, 2020).

Again, understanding what the impact is for the future or how to leverage that to get an improved outcome, for example, for a city. You look to the 1931 earthquake, in Napier and it resulted in the establishment of the Earthquake Commission; in a very minor context, in Wellington, it led to the un-reinforced masonry strengthening of buildings which made the city safer in the event we had another earthquake in the future. It is almost that review and having been a student of history and politics in NZ, I could always see that every major event had always led to a Royal Commission of Inquiry or safety improvements. It is that willingness to use that opportunity in time to put pressure on to get a better safety outcome. . . . And likewise, the Ballantynes' fire, so there were fire design guidelines and fire engineering improvements which took place. And the same happened with Christchurch, although perhaps in an engineering sense, perhaps not enough change (Interviewee 21 – ex-City Mayor, personal communication, August 27, 2020).

If you survive events, you either come out in front, or you don't come out at all, and the key is to be able to take those learnings and apply them Make sure you really learn the lessons and make sure you put in place those lessons you have learned so that it makes you stronger. My organisation, I absolutely know, that the lessons we learned from Kaikōura stood us in good stead for Covid - around communication, IT capability,

the impact of people working from home (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020).

Societal or community growth

This factor is people having the motivation, trust, and energy to come together to support a cause or common set of values and have a sense of accomplishment. This cultural outcome is consistent with an eastern desire for harmony mentioned earlier in the chapter. For a western liberal democracy, however, harmony is harder to achieve. An example in a western environment might be the situation arising from the 19 March 2019 Christchurch terrorism event, where arguably the community and societal impact of the attack was the opposite of what the perpetrator intended (Interviewee 24 - Commander, personal communication, September 21, 2020).

I think that because of the response of leaders, not just the Prime Minister, the leaders in Christchurch, it was a kind of compassion, empathy and that I think made people come together, which I think is uniquely New Zealand. . . . Leaders of the different sectors came together in a kind of empathy, no divisiveness (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

Looking further afield to other extreme contexts:

I think that is where recovery comes in and involving the affected communities in the recovery, doing it with them. . . . Now their involvement starts early in the response in terms of keeping them informed and feel they have been listened to so that that can roll into recovery as well. We cannot just start talking to them in recovery (Interviewee 13 – Controller, personal communication, July 24, 2020).

There is two bits to this, isn't there? And it is that demarcation that we have put in our doctrine almost, that there is a hard line between recovery and response - and we always

say that recovery always starts in response. . . . But what I am talking about - the assurance is to give your stakeholders confidence that there is a brighter future not too far away, otherwise, we will all give up and go and live in mud huts (Interviewee 9 – Controller, personal communication, March 8, 2020).

Fight or flight. . . . It is the fight that you need. . . . The tone is set from the top, isn't it? The messaging that the community see, what they need to hear, is that the first perception, they want to know someone is in charge, they want to know that there is a coherency to the message, that people are acting, things are underway (Interviewee 14 - Council Chief Executive, personal communication, July 29, 2020).

The social connectedness is better. They have designed the city so that it is good for the residents. Designed a city that was better than it was. There is no doubt about that. They have come together as communities to fight what was being done to them as part of the recovery, and that has made them stronger. But I think the worst thing you can do, and there were parts of that, that happened in Christchurch, is to go in and tell people what is going to happen (Interviewee 30 - Controller, personal communication, November 5, 2020).

Searching for the opportunity/win/success and then acknowledging the satisfaction

In the Chinese parable earlier in the chapter, a thriving outcome involves searching for the positives (in an evolving situation where there are both positives and negatives) and using those to define the desired result or effect to be achieved analogously to the personal growth category above. And, as with that category, the definition of success may be personal to the participant and related to perception rather than reality.

There are many facets to that. One is, that what is their realm of normal, so hypothetically, I am going to pick a mental example actually, that I won't name, but if you pick one person, who their normal is doing extreme endurance events and things like that, and they find themselves in an environment that they didn't choose to be in,

but actually, they are having to use those extreme endurance skills to get through - that causes them physical and mental pain; a proportion of that is abnormal because it might be out of their control, but actually, there is a big proportion that is normal for them - because they do that for fun (Interviewee 23 - Director of Leadership Development and ex-military psychologist, personal communication, September 10, 2020).

My manager said something to me in the White Island response; I said I was really feeling upset about these people and because I came out of that response really proud of my - what I had done. I said I was really struggling with the fact that I was really proud of my involvement, and she said bad things happen to people every day, but you are helping to make their lives better with what you are doing, and that was something. . . . So, I took from that, going into the next one that it is ok to feel pleased with your accomplishments, even though it is really shitty for someone else because you are still helping them (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

Probably, seeing things in a very positive way, being able to be good to yourself and say, oh well, I was good. By the way, I was good. So, I was good, and I can see that I can do a lot of things, and you can see it from another angle and think, ok, I have done it. That is it. And if, also the way, people immediately around you in your working environment, says, oh well, she or he did the right job (Interviewee 20 – Ambassador – ex-Foreign Diplomat in a conflict zone, personal communication, August 20, 2020).

“Having a good team and a good leader as well. That would make anyone thrive if you have good support there. . . . because, in order to feel good, you need to have achieved something. I guess it is giving people more ownership of what they are doing as well. So that way, they feel they have achieved it. I was part of the team” (Interviewee 25 -

Member of the public, identifying as Pasifika, personal communication, September 28, 2020).

Yeah, I think so often you start with just trying to get through before you get a chance to lift your head up and go, can we make a benefit out of this. And that benefit can be quite varied. . . . There's no doubt that in those bigger operations - allow you to, once you are on top of the urgent, to start focusing on system and system enhancement, things that strengthen the system for future events. . . . we are here for the next ten days? Let's actually get a whole pile of training certifications done in the field in live conditions. You can't get that in the first few days, you are too stressed, but get ahead of it; ok, I'm going to take that person offline from the team or get someone from out of area and going to go and do field assessments. So, you're getting a whole pile of qualifications out of that. So, we've done that one. We've done the one where you know, you try and get again once you get past that first. . . . You might think, okay, let's get the media and getting the good image building. So, people know who we are, and they will know who to call and, therefore. So, we've often - once we got the day by day three, going, okay, how can we make this into a turn into an opportunity? It's very hard the first day or two, usually drowning the first day getting on top of the problem, another one we have done (Interviewee 5 - Australian Emergency Manager, personal communication, November 18, 2019).

“It's about where you draw your energy, isn't it really? . . . Celebrate, rather than have the oh phew, moment” (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020)

“Having a good outcome at the end of the day” (Interviewee 18 – Member of the public (NZ European), personal communication, August 6, 2020).

Seizing the moment

This capability is the agility to pivot, immediately change course, seize the moment, and capitalise on opportunities arising from the context and its impact on people. These are not merely random “shovel-ready” projects - as was the phrase, post-Covid (Rutherford, 2020) but ready-to-implement projects in support of an acknowledged programme consistent with a shared vision. To achieve this implies an agreed vision, a degree of planning, and having an organisation with the structural, cultural, and logistic means, to seize an opportunity. In business, this requires a degree of slack or surge capability/resource to pivot; on the battlefield, this is the employment of reserves; in the financial markets, this requires funding to seed or invest.

Seizing the moment is consistent with the Mission Command philosophy or the empowerment and resourcing of people to seize opportunities in support of a joint mission or, in a civil sense, a shared vision.

Not in the actual emergency so much, but certainly, you are not a council worker, without thinking, that road is now bugged, so let us not just fix it but make it an opportunity to both do it well but get the community in behind you. Sometimes people will tolerate some things in an emergency that they wouldn't normally (Interviewee 6 - Council Chief Executive, personal communication, December 11, 2019).

I have done member briefings since we have come out of Covid, and I asked the audience how many of you today are doing the same as you were prior to Covid and not one of them put their hands up. And what that says to you, all businesses that are still around have pivoted in some way, shape or form. Whether that is the way they do things, the outcome they get, the resources they deploy (Interviewee 15 - Chief Executive and Business Representative, personal communication, July 22, 2020).

I think, having a good organisation, having good communications, having good leadership, having good people below you, being able to get people to work with you, all on the same page, striving for the end goal, that is - that is the difference with having a cohesive team, right - will enable you to have success as long as you are able to see where you are going (Interviewee 18 – Member of the public (NZ European), personal communication, August 6, 2020).

There is, look, it is a comment - that sort of Churchillian type thing - great in wartime but not good in peacetime. I think this is one of the - naturally, I am better in the crisis or your turnaround situation if you like, and I think you have to be honest with yourself - there are things you can do, not to create a crisis but at least create a burning platform to get action done, do you know what I mean? It is how you actually leverage everything - how you actually continually get peacetime benefits from all of that - and probably that Kaikōura with that Lifelines work in particular, and I think we did some of that well, but it was just - you get a window of opportunity - it's about a year probably, and with John Key gone we weren't able to get as much out of it as would otherwise have done (Interviewee 6 - Council Chief Executive, personal communication, December 11, 2019).

Yes, I think you unashamedly cash in on the emotional aftermath, which is short-lived. As I mentioned before, you have to make hay while the sun shines and get stuck into that, but then generally, it has to be institutionalised. And the way you do that around here is to get stuck into policies and budgets and the government structure. I think we managed to get, after the Kaikōura earthquake, we did exactly that, Bruce. We got - resilience suddenly went from being me in a corner office gathering dust to being soup of the day and one of the councillors' top four or five strategic priorities for the next ten years. All of a sudden, there are budgets, and there is money in strategic this and strategic that and everyone is wanting to knock on my door to talk about resilience. So, I was smart enough and witty enough to

make that stuff; it's now in our Long-Term Plan. It still is with the new council, one of our strategic priorities and every chance we get (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

During the Kaikōura earthquake response, . . . (*Minister's name*) came in; he was breathing fire at the time with what was going on. . . . Alex, our GIS guy - he ended up talking to the Minister and showing him the 3D GIS layers. Alex is a quiet guy, and after that, he would have quite happily gone back to sitting in a corner somewhere, but I saw what he did and what he actually did wasn't show him GIS; what he did was tell a story - powerfully supported by these images that had (Minister) kind of leaving the office less grumpy than he was when he arrived. And that was such an important thing for us, not to let go of that we actually - . . . we did a 'bodgey'. . . . So, we grabbed it, and we drew a team around it and got four guys doing that stuff and GIS is now a massive part of what we do - not just in CDEM stuff on a - if only the Ministry would latch onto that kind of stuff (Interviewee 7 – Recovery Manager, personal communication, November 11, 2019).

Luck.

Luck is the serendipitous matching of the outcome, opportunity, people, and context; through circumstances, independent of the leader's direct intervention (author's definition).

"This started as a really bad day at the office, and then we got lucky" (Interviewee 1 - Controller, personal communication, September 30, 2019 - during the Kaikōura series of events). What the controller was referring to was that the region was subjected to a series of (some) related and (others) unrelated events – earthquakes, tsunami, storm (with 140 kph+ winds), flooding, slips, a small tornado, and a swarm of bees. And after a period, the situation eased. The region did not experience the typical pattern of aftershocks as these dissipated more quickly and with fewer major aftershocks than had been expected. The decisions that contained an element of risk (allowing controlled re-entry into the CBD) paid off. The general public (including building

owners and employers) exercised good common sense. All this permitted a more rapid resumption of normality. Had the region experienced a major aftershock that either further damaged buildings, threatened public safety, or created casualties, then the situation would have ended quite differently and have been judged accordingly. In this case, decision-making is judged by independent outcomes driven by context (similar to the Chinese parable on page 310).

Kahneman (2011, p. 177) summarises this quite simply. When asked for his favourite equation, he wrote:

“success = talent + luck

great success = a little more talent + a lot of luck.”

He then explained his principle using a form of regression analysis to examine successful outcomes against the norm.

Given the independence of the lucky outcome from decision-making by leadership, the question is, are there actions, decisions, or other factors that might better lead to circumstances where luck plays a part? Those factors highlighted as part of this research, in support of this include:

Staying in the contest.

This requirement demands a high degree of resilience by all participants and the employment of defensive structures/actions as appropriate. Using a cricket analogy, you can't reap the benefits of a lucky shot if you are sitting in the pavilion, already out. Using the Black Death as an example, you can't prosper from the plague if you are already dead. In a military context, there are numerous examples of forces profiting from serendipitous circumstances by remaining in the fight. For example, (with the benefit of hindsight) had Napoleon commenced his attack earlier during the battle of Waterloo, been more decisive, and committed his reserves earlier, he may

well have defeated allied forces under the Duke of Wellington prior to the arrival of the Prussian forces under Marshal Blucher.

“You’ll see the account of our Desperate Battle and victory over Boney!! It was the most desperate business I was ever in. I never took so much trouble about any battle, and was never so near being beat” (The Duke of Wellington writing to his brother William, as cited in Cornwell, 2014, p. 313).

“A couple of days into the earthquake, I received a message from a council alternate controller saying it was all getting too hard and they (the EOC) would have to close down. He was immediately removed from the roster and found another role” (Interviewee 1 - Controller, personal communication, September 30, 2019)

For me, it is just about staying in the fight. The real competitive edge for me, I hate losing, which I am sure you will find a surprise. For me, I think it comes down to I hate losing, and I hate people that just give up when it gets tough. So, for me, it is finding teammates that I can see that grit and determination to really dig deep, hard, to keep going when the cards are against us. For me, that is what I always fall back on, wanting to stay in the fight and making it as hard as possible scrap and, you know, do whatever I have to, to try and get out on top (Interviewee 27 - Captain of a New Zealand sporting team, personal communication, October 1, 2020).

Managing opportunity and not simply risk.

An example of this is the impact of Kaikōura on the city of Wellington mentioned earlier under this heading. However, it should be noted that this requires the effective balancing of risk versus opportunity, and the outcome depends on a volatile, uncertain context. This factor was discussed in more depth on page 276.

Having a joker up your sleeve.

This aspect is the ability to apply a game-changing move to change the outcome and could be in the form of a strategy or a significant resource injection. While not wholly independent of leadership decision-making, it does require a degree of advanced planning and options management, allowing you to remain in the contest and seed a winning outcome when perhaps events were meandering to a less than optimal outcome.

“The government has had a set of tools that has allowed it to respond in a really effective way, including wage subsidies and the like, but that was on the back of, years of fiscal prudence - managing, building up reserves, that can then be drawn down” (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

Possibly one of the more memorable examples of such a factor being employed in sport was the lineout infringement/action that led to the granting of the winning penalty goal during the Welsh rugby test in 1987 ("Andy Haden dives to save rugby test," 1978). Two minutes from the end of the game, with his side behind on the scoreboard, one of the New Zealand lock forwards engineered an obstruction (he dived from the base of the lineout). Whether this was the basis for the resulting penalty or another infringement involving another player will never be known, however, the intent was certainly to create a game-changing move.

Valuing and displaying appreciation.

For some people, you can feel lucky if you have immense appreciation for what you have, counting your blessings rather than lamenting those things you do not have. This approach can be promoted through messaging, a sense of belonging, and by looking for those opportunities around you. During the initial stages of Covid, many New Zealanders considered themselves fortunate (lucky) to be in New Zealand, considering what was occurring in other countries. New

Zealanders were part of a team of five million, and efforts were made to champion the role of essential workers.

One of the interviewees (a foreign national), when asked about the differences during Covid between New Zealand and her own country, replied:

I guess decisive leadership is good, not going to and fro in their decisions, so what I can see from here in the (*her nation*) at the moment. Because here once a decision here has been made, there is always a follow-through. In (*her country*) the health departments say one thing today, and then tomorrow they thought that was a mistake and so. Transparency, decisive leadership, and accountability. I have been quite impressed with NZ leaders admitting mistakes and then moving forward from there. . . . So, one of the things that we often talk about is the team of five million. We don't know if we are part of that five million because the communication is that New Zealanders have done well for New Zealand (Interviewee 12 - Member of the public (Asian), personal communication, July 20, 2020).

Learning from the Business Sector

In positioning a business to profit from uncertainty, Schoemaker (2002) presents a systematic process to prepare the groundwork to seize opportunities from contextual elements. These include:

- a. **Embracing uncertainty.** Recognising that we live in tumultuous times, where volatility and uncertainty are expected and therefore anticipated via planning.
- b. **Experience Multiple Futures.** Realistic images, storytelling, or scenarios are important in imagining the future and then preparing for it and positioning to take advantage of opportunities arising. This situation requires a degree of exploration, examining possible scenarios and impacts. One of the lessons from chapter six of this thesis is that there

may be multiple realities, even for a common scenario. The situation in Wellington arising from Kaikōura was quite different from the impact in Canterbury. It was also clear from the interviews with members of the public conducted as part of this research that the impact on families was also different.

- c. **Preparing for the unknown.** Even uncertain futures require some definition, particularly those that help define desired outcomes or critical success factors. This approach is essential as the absence of these factors can lead to indeterminate outcomes. Was Christopher Columbus' journey to America a failure because he didn't know where he was going, didn't know where he was on arrival, and on return to Europe, didn't really know where he had been?
- d. **Building a Robust Strategic Vision.** Any successful organisation requires a comprehensive, compelling vision statement. This should include a destination and how it will get there, goals and milestones along the way, those core competencies required, and a map of how to make the necessary changes. The vision should stretch the possible boundaries and be inspirational, measurable, attainable, and sufficiently robust to cater to multiple future scenarios.
- e. **Creating Resilient Options.** Given the future's uncertainty, the vision requires conversion to flexible options to permit appropriate selection or adaption given the resulting situation.
- f. **Dynamically Monitoring and Adjusting.** The key here is to accurately read (sense-making) situations as they unfold, making the necessary adjustments ahead of time.
- g. **Implementing Effectively.** They are taking a vision, options, and plans and driving them through to fruition. All those factors in BAU leading to implementation but are delivered in a volatile and uncertain environment.

Reconciliation between sectors

As has been demonstrated earlier in the thesis, particularly in Chapter six, the benefit of examining another sector is not simply confirming the similarities and differences, but critical analysis of those factors present in the parallel sector that, on reflection, is also relevant to the focal sector, notwithstanding their apparent absence, in this case:

Purpose (Robust strategic vision)

The most obvious, in this case, is linked to the split and devolved responsibilities identified as a part of the Leadership Capstan and critical to thriving during adversity, and that is purpose. This factor was identified through analysis but not evident in driving decision-making and actions out the other side of the two case studies. As previously stated, during such times, the spotlight is on the response leader. Yet, their mandate extends no further than to blunt the context and bring society or the community to a steady and stable state. Emergency management recognises this with the creation of the separate role of Recovery Manager, however, the level of attention to imagining the future as proposed for business by Schoemaker (2002) is in many cases lacking. It would have been interesting to examine how Napier was reimaged as the art deco capital of New Zealand post-1931 earthquake (Nalewicki, 2016). This transition is occurring for Christchurch but is more due to a nationally led command process rather than a locally-driven leadership process ("The Christchurch rebuild: A tale of two cities," 2021). If there is an equivalent for New Zealand post-Covid, then this is not immediately apparent.

This link between purpose and context is important. The Chinese folk story on page 310 indicates that a situation can be either a challenge or an opportunity, depending on the context. Similarly, in terms of thriving, innovation is sometimes the result of failure (Chee, 2021) or a product or by-product arising from challenge/adversity (e.g., new technology developed during war years, often with flow-on civil uses, Teflon coatings developed by NASA for space missions being used to coat fry pans and irons).

Context

Context is one crucial feature reflected in the Schoemaker (2002) book and highlighted in the Chinese folk story. An innovation or set of circumstances can only be beneficial provided there is a propitious context. There have been occasions when new theories or products could have come earlier, but there was no demand. 3M post-it notes are a good example, with the adhesive being developed although proving unsuitable for its intended purpose. It wasn't until several years later that a separate need was matched against the product resulting in the ubiquitous post-it note ("History timeline: Post-it notes," 2021).

Conclusion

Learnings from the contents of this chapter and related findings from the previous chapters are that the key to thriving would appear to be creating a fertile environment, sometimes challenging in BAU, and certainly no easier during extreme contexts. This environment benefits from the inclusion of the following features:

- a. **Purpose.** A (planned and agreed) purpose or vision to strive for out the other side of the extreme context. This requirement may be in the form of an attainable inspirational vision - as appeared to be the case in Napier where an earthquake-ravaged city was reimagined as the "Art Deco Capital of the World" (Nalewicki, 2016). It could be a resourced commitment to target the next world cup after an unsuccessful campaign. In a community sense, it could be the inculcation of a set of worthy values and a sense of purpose after the effects of an extreme context. It could also be a sense of gratuitousness, understanding, belonging, and community spirit (as displayed by the Muslim community in Christchurch). In many instances, this desired situation could be advanced through planning and preparation. Society can prepare for this by reimagining possible futures, as practised by business.

- b. **Skill, encouragement, and tools.** A no-blame environment plus the tools to promote appropriate sharing of risk versus opportunity, knowledge of those triggers to enable cascading beneficial outcomes, and encouragement for people to consider what is beyond those challenges immediately in front of them.
- c. **Society and culture.** A pragmatic society and underlying values that acknowledge, recognise and strive for personal and collective growth and success.
- d. **Resilience.** Embrace an uncertain future with the resilience and defence mechanisms to ride through the 'tough times', allowing people the opportunity to benefit when circumstances are more propitious.
- e. **Kairos.** An understanding of and proficiency in achieving optimal synergistic outcomes between leadership, people, and context; described by Aristotle as Kairos or the propitious moment for action where the factors mentioned above are in alignment. This situation requires awareness, flexibility, adaptability, and the necessary resource to seize an opportunity.
- f. **Lessons Learned.** An understanding and acknowledgement of where we and others have come from – history, culture, those things society values, and those to avoid. Plus,
- g. **Luck.** Employment of those environmental factors that position people, organisations, and society to take advantage of any presenting luck.

The combination of these factors would see an indicative model targeting thriving outcomes as follows:

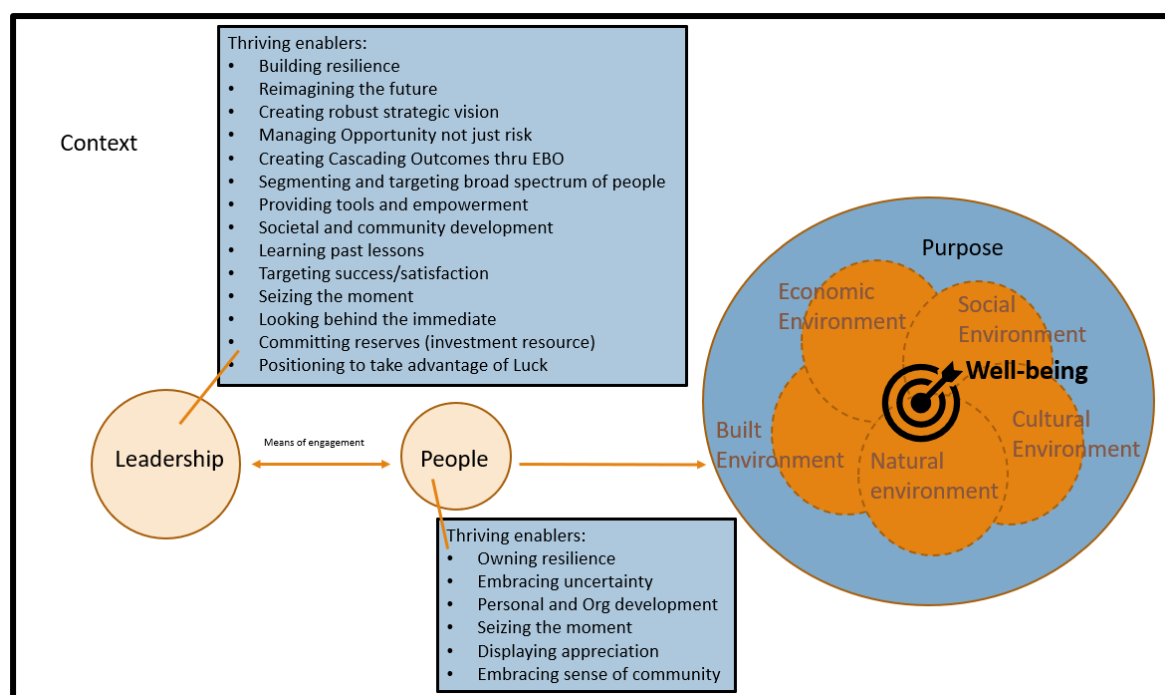


Figure 46 Leadership Capstan - Purpose Layer

Chapter Summary

With this in mind, there are critical factors necessary for thriving outcomes, beyond simply:

- Meeting the immediate (and presenting) challenges associated with guiding the endeavours of disparate organisations identified in Chapter four,
- Having the ability and flexibility to exercise appropriate means of exercising authority identified in Chapter five,
- Using the models identified and discussed in chapters six and seven, and
- Displaying the capabilities and conducting the tasks identified in Chapter eight.

True leadership demands a higher standard of outcome than mere survival. For leadership in extreme contexts, this requires the coordinated efforts of all those exercising authority across multiple dimensions (across time, across agencies, and within hierarchical formations), plus the enthusiastic support of those being led:

- Having an agreed and viable future-state purpose, plus the drive to achieve this,
- Being armed with the attributes, tools and resources to deliver against this purpose,

- Working within a society that promotes, strives for, and celebrates advancement,
- Having the temperament, resilience, and resources to weather the “bad times”,
- Being sufficiently agile to pivot to seize an opportunity,
- Having an honest and comprehensive post-event review plus the commitment to implement necessary change,
- Positioning your organisation, community, or society to take advantage of lucky breaks, and most importantly,
- Looking beyond those intensified contextual factors immediately in front of you.

However, these factors alone cannot guarantee a thriving outcome and depend on the Leadership Capstan achieving Kairos (page 233) - when conditions (context, leadership, people, opportunity, and purpose) are optimally aligned to accomplish the crucial outcome.

Blank

Chapter 10: Consequences for the Future of the Security Sector

Introduction

Sometimes the biggest threat to the security of a nation does not carry a weapon.

This chapter builds on the contents of the preceding chapters, linking the findings to national structures, policy, and aspirations, to identify the real reason leadership in extreme contexts is so essential. The nation has just experienced an extreme global context, the like and scale that has not been seen for one hundred years. Is this merely a glancing blow (social evolution at work), or do extreme contexts like this represent the ultimate challenge for the security sector?

Suppose the people desire a thriving outcome rather than merely surviving. In that case, we as a nation need to revisit, rethink, and reimagine the security sector to consider what it should look like and help define what constitutes a successful outcome. While not explicitly forming part of the original research questions, this chapter is intended to position leadership during extreme contexts inside the bounds of government structure and societal expectations.

Definition and scope

Security Sector

The nature and components of security in the international arena have undergone reform in recent years. While in previous times, security was viewed in terms of inter and intra-state threats, more of a military or insurgency nature, these days, the concept is more inclusive of those factors leading to the well-being of the people. As Kofi Annan said (cited in The International Security Sector Advisory Team, 2012):

Human security encompasses human rights, good governance, access to education and healthcare and ensuring that each individual has opportunities and choices to fulfil his or her own potential. Every step in this direction is also a step towards reducing poverty, achieving economic growth and preventing conflict. Freedom from want, freedom from

fear and freedom of future generations to inherit a healthy national environment – these are the interrelated building blocks of human – and therefore national security (p. 1).

Of relevance, the New Zealand government appears to have taken this concept to a new level, making well-being a primary focus for the 2019 budget (The Treasury, 2019).

The Government is committed to delivering the well-being approach in Budget 2020 and beyond. This will continue the progress we have made to embed well-being into the heart of the Government's policy-making. However, achieving genuine and enduring change requires a public sector and systems geared towards this new way of working (para. 1).

This high-level intent is also reflected in policy statements such as the most recent white paper on Defence (Ministry of Defence, 2018), which preceded the budget statement. This states in part:

National security is the condition that permits New Zealand citizens to go about their daily business confidently, free from fear and able to make the most of opportunities to advance their way of life. . . .

In pursuit of these objectives, New Zealand takes an "all-hazards" approach to national security. It has a security system designed to bring Government agencies together to respond to all risks to national security, whether internal or external, human-driven or naturally occurring. These range from the challenges associated with natural disasters, resource exploitation, pandemics and other biosecurity events, through to evolving threats related to terrorism, space and cyberspace (p. 10).

Therefore, the security sector in New Zealand may be described as an ecosystem comprising those elements that lead to personal well-being. These factors include public safety, sovereignty

of territory, trade, and communications, the economy, democratic institutions and values, natural environment, along with any matters representing New Zealand's interests (Department of the Prime Minister and Cabinet, 2016).

Such an evolved scope and definition of the security sector presents some challenges for leadership, particularly with the added complexity that comes with meeting an increased range of public expectations. This less linear, more interconnected definition also demands greater accountability from leadership and fresh all-of-government mechanisms if it is to be delivered effectively. It also requires a diversified approach to exercising authority, with traditional command and control arrangements inappropriate against the increased leadership span necessary for an all-of-government response. Command and control may also be less effective with the newer, softer side of security sector reform. This perhaps may be one reason why the intelligence and emergency-related groups associated with the sector, are advisory only, with no mandated authority.

The resulting situation demands a more holistic, integrated, and comprehensive approach to leadership during conditions of extreme context. It also provides additional challenges, as traditionally, security has been part of a collective approach, developed in conjunction with partners and allies. Are Five-Eyes nations to now increase their scope of cooperation to include all those factors now comprising security, or are we to partially dismantle the old-style mechanisms and learn to go our own path, developing a tailored domestic approach to security?

Australia, UK, Canada - all who have a much narrower definition of national security.

Ours goes broadest and is also consistent with an all-hazards, all-risks approach. But interestingly enough, the partners with Covid are now looking more to this base of having all hazards, risks (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

Also, consistent with the theme frequently repeated throughout the thesis, is the western approach (with its categorisation and rule-based perspectives), preferable to a more eastern oriented approach to security, something that by definition is very systematic, very mindful of context, and tailored to meet the needs of the collective?

National Security

Based on the analysis of the data gathered in support of this research, critical aspects of a national security system operating effectively in extreme contexts should be expected to include:

Vision and Strategy

New Zealand has a National Security System Handbook (Department of the Prime Minister and Cabinet, 2016), however, this is more of a structural and procedural manual. Without a sector vision, philosophy, and strategy to achieve this, efforts to advance sector development will continue to suffer from the lack of:

- a. An appropriate integrated structure.
- b. The means and repository to capture all relevant post-event lessons.
- c. Development programmes to enhance individual and collective skills, and therefore experience.
- d. An understanding of the integrated nature of those factors creating and acting as a barrier to well-being.
- e. An effective all-of-government staff system to support leadership attempting societal change.
- f. Capability and capacity are necessary to meet the diverse group of potential and emerging threats.

Without a clear vision and strategy, the danger is that elements of the nation will use traditional (old) tools to defeat newer challenges when the need is for pro-action, pre-emption, and innovation.

A unified National structure

While New Zealand doctrine has made a point of emphasising the need for a consistent and coordinated approach (Department of the Prime Minister and Cabinet, 2019), this does not appear to be supported in practice. The leadership system expressed in Chapter four of this thesis displays the level of connectedness of the entities and concepts involved in the system. It also emphasises the varied, siloed, and sometimes disparate approaches to response, with different training, development, culture, rules of engagement, and even things as simple as planning horizons. Covid reinforced with greater clarity what had been less evident in previous extreme contexts; a lack of jointness. This concept is an approach adopted by the New Zealand Defence Force in the late 1990s in the lead up to the Timor-Leste deployment. Before then, the three services (Army, Navy, and Air Force) had three separate operational headquarters spread across the country (in Linton, Devonport, and Whenuapai). This arrangement worked fine during peacetime and for small deployments under the command of a hosting service. Timor-Leste represented the largest (and most comprehensive) deployment since World War two and required the higher level of integrated operations, planning, and logistics of a joint Headquarters. While such an entity was unpopular amongst traditionalists, the new approach quickly demonstrated its value.

“It is doubtful whether the NZDF could have trained for, deployed and led its multi-service contingent to East Timor under the previous construct” (Interviewee 10 - ex-Senior NZDF Commander, personal communication, September 30, 2020 - past Chief of Staff at Headquarters New Zealand Joint Forces Command).

This higher level of integration was not evident during Covid 19 nor in previous New Zealand extreme contexts. Under the Quintet arrangement established to lead New Zealand's Covid response, while the strands of activity and advice were combined at the highest echelon, the umbrella still presided over largely siloed response agencies. There were at least three national operational headquarters (Health with their National Health Crisis Centre, NHCC; Civil Defence Emergency Management with their National Crisis Management Centre, NCMC; and Police with their Operational Command Centre, OCC), a strategic and policy structure, plus the individual contributions of a multitude of central and local government organisations, e.g., ministries, departments, councils, District Health Boards (Interviewee 13 – Controller, personal communication, July 24, 2020). One area where there was a degree of jointness (in structure) was the management of the Managed Quarantine and Isolation facilities. These were MBIE led, with the military, central government, and contractor leading and supporting roles. But even these arrangements were sub-optimal owing to a lack of consistency in systems, culture and even terminology (see comment on page 82).

There was a general lack of integration and a lack of understanding of what each element did. This lack of integration started at the national level and continued through regional/group structures.

“What they do is not clear to me in terms of authorities - by the way, that doesn't mean they don't have any, I just don't have any that is visible” (Interviewee 16 – Senior Commander, personal communication, August 20, 2020 - referring to the OCC).

“The lines soon became blurred with both sides doing, for instance, planning and taskings. It soon became quite a mix. . . . This, and the different cultures at the two locations led to a degree of tension” (Interviewee 13 – Controller, personal communication, July 24, 2020 - referring to the NCMC and OCC).

CDEM didn't seem to have faith that Health knew what they were doing, and Health thought CDEM were stepping on their toes. And that was evident in some of the conversations. . . . around surge capacity and planning around ICU outside of hospital (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

Lessons Learned System

An honest and deeply reflective Lessons Learned process was previously highlighted in Chapter nine as a critical component of a thriving environment. Aiding its effectiveness would be an accessible knowledge bank and a continuing education process that draws on the material to enhance future leadership capability. Failure is a powerful motivating and learning experience, driving improvement; even better if those failures come from history or a more contemporary nature, made by someone else.

Well, there is an intention; I mean, it has been there for a long time - now it is actually happening - people have been hired to do it - a centralised lessons management capability. So, people are being hired to do that. It will assist. It will be better than we were. No matter what happens, it will be better than we were because we haven't had that across general government (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

Training, Development, and Exercises

Training and exercising were highlighted earlier in the thesis, in Chapter eight, to oil the wheels of success and enhance the experience factor. Joint programmes like this also enhance trust, understanding, and complementarity, all essential to bringing disparate organisations together to operate jointly under unified control.

Training, development, and exercises are already part of accepted development plans for response organisations/agencies; however, numerous factors constrain their effectiveness.

These include the need for:

- a. Realistic scenarios that test all aspects of a response, including structures, training, relationships, and psycho-social factors.
- b. End to end operations (Response is the obvious candidate, however, this is usually without promoting and practising (table-topping) the other components of the 4 Rs, Reduction, Readiness, and Recovery).
- c. Simulation to include all aspects of the Leadership Capstan, including intensifiers and the people components.
- d. For some corporate leaders and those in governance roles, training and exercising is something for the staff to practice (conveniently overlooking their vital role).
- e. A graduated programme of escalating exercise complexity, starting with individuals, units, organisations, multi-organisation, and then full societal participation.
- f. Constant refreshers are required to cater for regular staff turbulence and waning interest (and memory) over time.

“I ran a CIMS course here in November and put forty people through, and when they were looking for people who were CIMS trained (a couple of months later), there was nobody”
(Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

So, the challenge that I found here . . . was we do this stuff all the time, we had done all the planning and had all the relationships, and then this (new) team was created by this person here who didn't understand our job or our role and so set up a whole new team. . . . Didn't understand that we do it on a daily basis. . . . I go to the local meetings for welfare and am linked into the agencies; I am linked into CDEM. And then you have these other people who are recreating the wheel (Interviewee 17 – EOC staff member, personal communication, July 31, 2020).

How do we do those? One of the things I am intrigued within an opportunity sense is to put all this onus on agencies for so long, to say across the Rs you need to do this as lead

agency, but we don't actually know how well they are going to respond. Exercises are all well and good, they can have their plans in place but having their conversations, not actually saying you need to go and do more, but saying - deliberate conversations with them, kind of, in a lesson sense. The Police would be the first to admit this - they are really good at response, and we are really good at readiness, but they don't do recovery. . . . And so, we, as a system, should be able to say, right, if we have another 15 March, we will wrap around, like MCDEM did, and give them some support in that space. There are some other agencies where we can do that pre-identification - kind of where might you need more support. If your risk eventuates, where do you think you might need a bit more of a - we could do a bit more of it ahead of time, and that would be a strength (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

Experience

Experience is one of those factors identified in Chapter eight as an essential leadership capability (albeit it did not feature as prominently in previous competency research). Given this importance, you might expect to see experience as a critical aspect of the mature national security sector?

The act sort of gives a fairly good list of the authorities you have, but no one in NZ had ever done it before; Government had never declared a state of national emergency before, so at pretty well every level, we were newbies. I was a newbie, Ministers were new at it, local government, the Mayor of Christchurch, was new at it, and the public didn't understand it either. But probably the worst aspect was that even though we were new at it, we should have probably thought about and trained ourselves through the mechanisms which were meant to take place, You know you can draw a line diagram, and we had line diagrams about how this would work, but we had never

discussed it with Wellington City Council, which was another one, or Wellington Group and the council, which would have been a candidate for a national state of emergency - we just didn't understand how it might work. So, lack of knowledge, you kind of had to make it up on the day - which is, I don't think, a very good position to be in. The second weakness of challenge in the whole process was, by and large, the people who were going to be the operatives, the staff in managing a crisis, are volunteers, part-timers in this game of Civil Defence, or biosecurity, whatever this crisis might be. And that is the challenge for the organisation, the leadership, and therefore the output of the process. An offshoot of that because to have part-timers and volunteers, there are people available who have some experience, and I hesitate to add that most of it comes from the military, but it is very hard for them to be assimilated into an existing organisation and to be of value because the volunteers have a way of thinking, a way of going and they resent having other people come in and, I was going to say lorded over them, but take charge of what they think is working quite smoothly, and it wasn't. You have, I found, significant weaknesses in strategy and planning, capability, we had significant weaknesses in logistics, and they all become the leader's issues because without capacity and ability in those areas, no matter what your cunning plan is, it is vulnerable. The success is at risk (Interviewee 9 – Controller, personal communication, March 8, 2020).

After gaining experience from the Christchurch earthquakes, PSA kiwifruit virus, Pike River explosion, MV Rena oil spill, Seddon earthquakes, Fonterra botulism scare, Kaikōura earthquakes, Port Hills bushfires, Mycoplasma bovis outbreak, the Nelson bushfires, Christchurch counterterrorism operations, and Covid 19; this situation looks quite different.

And fair to say, the last 10 to 15 years, we have had a fair few shocks thrown at us, so as a system, we are much better. Still, long way to go but, Christchurch earthquakes,

Kaikōura, RENA, any number of challenges, whether local or national level, have meant that the systems are refined, and we are better if we- if *(name provided)* gets a call about something; we can put together a watch in an hour to pretty much have it framed up in a way that will give good guidance to whether to *(name provided)* or straight to the PM. That is not to be complacent about that at all, if you were to give us an issue and say who would you bring together, we could list the agencies, and we would pretty much know the people that we need to draw in, and we know that if it is not them, then they will have someone designated in the room next door. So, that is something that always - hasn't always been there (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

An integrated effective security system

Covid represents the most comprehensive all-of-government response operation mounted to combat a common threat, certainly since World War II. Yet, there has been little public discussion or acknowledgement that what the country faces is a security threat, what that means, and what that requires in terms of national response and recovery mechanisms.

I've got, go back to 2001 and definition of national security, but for a long time, outside of a small grouping of agencies, Defence is one, Police, and Intelligence community, ourselves, that was seen as, well they are the agencies that deal with national security. Look at Covid now. ACC, IRD, Reserve Bank, Worksafe, across the sector, all have got a place in Covid – absolutely, we are part of it. So that broader sense that national security impacts the lives of everyone - it goes to our definition, but for a long time, to be honest, national security was stuff that happened to others - it happened overseas, it happened to others, it wasn't about us. And the sort of cathartic shock that the 15 March and in a way, White Island, and particularly with Covid - if you ask people, are you impacted by national security events? You are probably going to get the answer, yes. Whereas I

would argue outside us, a beltway and a few agencies, you probably wouldn't have got that (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

I was just thinking, what you said about well-being, and how we tie to the well-being angle, the response, across the other Rs as well, from the central coordination point, we have got seven national security objectives, and we have one overarching - the definition of national security is all about NZers being able to go about, live their lives, free from fear, confident to be able to do their business and to, basically to prosper, and to us that is all about - that is well-being. If you can achieve those things, that is well-being - so taking that risk-based approach helps achieve the objectives, and therefore enhances the well-being of NZers. And so, I think that is something, and when we cast our minds broadly nowadays, about who needs to be involved, it is much wider - the softer agencies would never have thought that they needed to play a part (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

[An effective staff system.](#)

In New Zealand, the agreed inter-agency staff system is CIMs, the coordinated incident management system (Department of the Prime Minister and Cabinet, 2019). Modelled on the original staff system designed by the Austrians and forming a crucial part of the command system introduced by the Prussians (see explanation commencing page 137), this is a structure to fuse sources of intelligence, promote integrated planning, assign individual and collective priorities, and coordinate team outputs, thereby maximising leadership effectiveness. With response components such as control, intelligence, logistics, operations, public information management, planning, welfare, and safety, CIMS was never designed to cater for the full exigencies of a grand strategy scenario such as a global pandemic with a policy component and

multiple lead agencies. This situation is evidenced by the disparate nature of three national coordination and operations centres, at least one of whom was not initially configured to operate with CIMS.

When asked whether their response was structured using CIMS, one response was: “We didn’t the first-time round. We do now” (Interviewee 26 - Controller, personal communication, October 9, 2020).

Yet CIMS was designed for a response situation and does not cater for the intricacies of a recovery setting, with its multiple domains of the built, natural, economic, social, and cultural environments (Interviewee 10 - Controller, personal communication, September 30, 2020). Nor does it cater for situations where there is a blurring of responsibilities between response and BAU (either within council or in the business sector). Some further development is required to cater for this.

Well, there is a capability piece . . . there is the BAU concurrency, there are gaps, and there are duplications, in a way . . . and there is overarching coordination. . . . The real challenge to the system is if this crisis becomes a part of BAU - BAU doesn't go away, but it is sort of building up. Then the tensions are around where is the best direction of our resources and where there remain individual accountabilities - CEs are still accountable to their ministers for delivery of a host of things they are funded to deliver on (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

What you are seeing at present is that where we have certain agencies that have a different model, and Defence is the classic piece where it is preparation, readiness, a sense that they have resources available that can be deployed. So, at present, we have got a deployment for Covid that is more significant and more challenging for Defence than Timor ever was. Timor, again, was core business. The MIQ and all the other work is

very different or is not what NZDF personnel ever signed up for. And that may go on for quite some time (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

Then you get to the concurrency. . . . So, there has been a structure set up to manage all-of-government operational and the like. If we had another Whakaari White Island, if we had another earthquake where there is a tsunami, if we have another foot and mouth disease or whatever, the system is going to have to step up to respond. It has already got the resources and a set of policy settings that may or may not operate with the demands coming in. So, a mechanism to arbitrate that and determine, probably back into this traditional structure. . . . That is the chair of ODESC's call, but it can be a handful of people, quite possibly, or it can be the full public sector leadership team. . . . So, yes, there are challenges, and it takes you to leadership, coordination, and oversight, direction, communication . . . and this is where, within this apparatus, . . . a lot of time is spent in terms of bringing others up to speed, getting like a franchise model, where you have sets of agencies that are within a particular cluster. So, there are the border agencies, the economic agencies. . . . So, the chairs of each of those groups get together collectively - what is happening? Do we need to deconflict, do we need to redirect resources? (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

[Integrated Response to All hazards, All Risks, Including Collateral Impacts](#)

This aspect of the security sector is about creating an effect rather than producing individual outputs. As per the (modern) definition on page 340, security is an ecosystem comprising those elements that lead to personal well-being. In that case, well-being must be an effect caused by the fusing of constituent elements, taking account of leadership, context, and the mood and aspirations of the people. This situation would typically mean agreeing to a standard definition

of well-being, however, the diversity factor would likely mean that what constitutes an appropriate level of security in one area and amongst one group of people may be quite different to another grouping. Learning from the analysis on page 96 would require careful examination of the people and the presenting risks and hazards.

The other aspect here is the best way to achieve well-being. Is this by progressive satisfaction of individual elements or through initiating a cascading effect, analogous with Worden's five-ring model outlined on page 63 and consistent with Effects Based Operations, outlined on page 62? Taking a widely known example, Maslow's hierarchy of needs (Bridgman, Cummings, & Ballard, 2019) and acknowledging that Maslow never designed his hierarchy in the form of a pyramid, do response and recovery actions have to commence at the physiological layer before tackling higher-order needs? Or, can response and recovery agencies target higher-order outcomes directly, with consequential positive flow-on effects for those outcomes of a lower order (as suggested in the following diagram)?

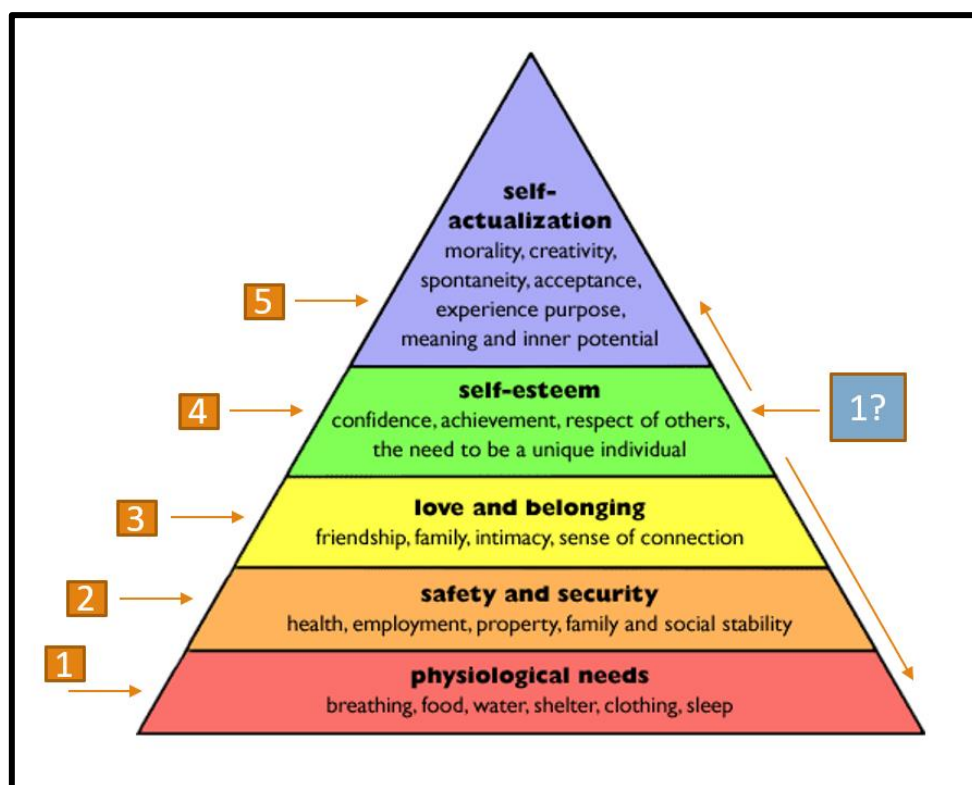


Figure 47 Maslow's Hierarchy of Needs

So, as said, we have forty-two nationally significant risks. A number of those risks are heightened or have changed as a result of Covid but remain. Areas like misinformation - disinformation is a classic - all the messages around Covid, 5G towers being targeted foreign interference, a big economic element. Part of the risks we look out to - our regional neighbours in Southeast Asia or in the Pacific. Covid across the Pacific; at the moment, there are some pockets, but there is a real concern. Equally, there is an economic dimension for NZ. . . . tourism . . . has collapsed and they don't have an internal market - keeping on a lifeline. I think the UN Sec-Gen talked about development in this space of a few months could set us back at least a decade, if not longer, across the planet (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

Because we have been doing some thinking about consequence management, and there are consequences that you have to deal to after a crisis or after something happens, but then there are also consequences that bring on their own set of risks. And what are those second and third-order risks? Who is dealing to those, and that is almost the evolution of the national security system? We have got lead agencies, we have got coordinating agencies; we have got those, but then what happens when there are cross-systems, and they are second or third down the track, and then who picks up the lessons from those sorts of things. That is a big chunk of thinking and work that needs to be done. That is sort of where the system is evolving (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

The challenge here is not simply something that arises during extreme contexts. The need for an integrated, holistic response to address multiple factors, including risks, also exists in BAU. Regrettably, the difficulty in achieving a pass-mark similarly exists in any extraordinarily complex

environment, notwithstanding the lack of additional demands imposed by extreme context. A recent evaluation by the Auditor General of the government's family and sexual violence multi-agency venture (Radio New Zealand, 2021) reveals limited success in how government agencies have worked together.

To achieve transformational change, everyone involved, from ministers to agency staff, needs to have a clear, shared understanding of what they are seeking to achieve, their respective roles and accountabilities, and what this means in practice. . . . Those involved in the joint venture need to devote time and effort to achieving and maintaining the clarity of purpose, support, and cohesive effort needed to achieve this change. . . . In my view, the joint venture's partnership with Māori can be successful only when government agencies and the responsible ministers are realistic and clear about what a partnership means (comments all attributed to the Auditor General).

Capability and Capacity

Capability and capacity represent the two dimensions of human and materiel assets required to meet the additional demands of extreme contexts. As can be seen by the commentary in Chapter four, within New Zealand, this does not exist in the form of a discrete national resource. It occurs in the form of disparate organisations (partially) independently equipped and operated as an English feudal system of old, where the military resource was held by feudal lords and landowners, rather than the national leader in the form of a king or queen.

In New Zealand's case, each response entity has a primary area of focus depending on the nature of the extreme context faced. Different organisations take the lead agency role. They establish their primary operations centre and attempt to harness and direct the multitude of response partners with their disparate cultures, plans, skills, knowledge, modus operandi, and sometimes, bespoke operations centres, complete with tailored staff system.

This arrangement leads to the obvious question; what is the role of the Defence Force in these situations? Is the role of Defence in the new environment to support and in some cases lead aspects of those actions leading to (new-age security definitions of) well-being? Judging by the thesis commentary commencing on page 341 and the policy statement (Ministry of Defence, 2018), the answer is yes. However, the degree to which the New Zealand Defence Force is, or should be, automatically engaged in such domestic matters is not clear and is presumably open for debate and negotiation. Consistent with the western concept of the military being both subordinate to civil government and playing more of a supporting role when operating within a sovereign territory, is the NZDF currently being employed to best advantage and what are the barriers to a higher standard of multi-agency integration?

Defence brings the muscle. And what it can do, is . . . bring the backbone of a command-and-control system that can enable - can integrate into the various aspects of a civilian architecture - a local emergency operations centres and the like and just provide the additional resources needed to get through the - to enable the planning and not just managing the day-to-day incident. I saw this out in Kaikōura as well, a couple of years after Christchurch. It can provide some small groups to large groups of people who can just enable a little more detailed planning and consideration of a whole range of things (Interviewee 14 - ex-Service Chief, personal communication, July 29, 2020).

The workforce is the main difference, and I don't just mean by discipline - we are a subset of the population; we are able to make poor choices as well if given enough time. But a disciplined approach to the way we problem-solve, and I am assuming that is what you are talking about? Obviously, the government has invested in helicopters and mobility capabilities, fixed-wing transport, surveillance aircraft, and we have got all sorts of other abilities. We have got ships and strategic movers and a disciplined workforce. That is what we bring. . . . what I have observed as a point of difference that led to an

examination of emergency management in NZ after Kaikōura, and the establishment of a new body, hasn't quite got to where I think Gerry Brownlee at the time imagined it should. . . . is that we support a group of agencies that come together without unity of command to start with, and they don't come from a background . . . this is a generalisation because some of them do, but for the most part, don't come from a background that will allow them to raise their eyes above the tactical . . . you will have a group of leaders frantically attending to the tactical. Whereas, from a Defence perspective, our discipline would signal when we are getting bogged down in the tactical, the nitty-gritty (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020)

Really trying to work out what the role of the support agencies are so that the expectations are quite clear - it is all well and good, and this particular issue in that concurrent space, and I use that Defence example again, is that everybody has in their plans that if X happens, we will call on Defence. Well, if X and Y happen and you are both calling in Defence. If you two don't know that Defence is both your point of contact, you are both going to be in for a world of hurt (Interviewee 28b – Manager with strategic security responsibilities (Central Government), personal communication, October 5, 2020).

Ok, from a leadership perspective, one of the biggest issues we are tackling (in the NZDF) is that there is a sudden requirement for our services in an unfamiliar environment for something we hadn't planned for, trained for, but are capable of doing and it is going to occupy us for such a long period of time - that the things that we are supposed to be ready for, contingency plans, like humanitarian disaster relief, security stabilisation operations, counter-terrorism, the list goes on, mass arrivals, all of those readiness attributes will atrophy. So, whilst we are so decisively engaged in this effort, . . .

everything else that we are supposed to be ready for is atrophying and will continue to (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

From the most basic level individual training and then collective training, joint training and often combined training, none of these things are available while we are so decisively engaged in Covid 19 response whether this is a requirement or the government's preference for using Defence in this way, it is there to use, and that is exactly what we are going to do. What worries me is that a Christchurch will happen, and . . . and we will have one shot at it, and we won't be able to assist because we are decisively engaged somewhere else, or worse, . . . worse in terms of the choices dilemma we will have if there is a pacific relief cyclone season - I remind them that there is no tsunami season or earthquake season and they can happen without notice, so don't earmark November as the time to be ready. It could be tomorrow. But we would consider that to be non-discretionary in NZ. We would go to their aid, and we would go big (Interviewee 16 – Senior NZDF Commander, personal communication, August 20, 2020).

This situation has also come to the attention of the strategic policy arm of government.

I suppose there is just one reflection . . . in extreme settings where response cannot be learned, at the time. So, for me, it has to be part of the muscle memory so that people react instinctively, but in the right way. And so, the more the experience, we take, the more lessons learned, the more training and practising where we can, is critical. I would say there is just one, it mentions, that we probably didn't touch on is, there are some jurisdictions around that I know, I won't mention them, but they had fantastic plans and fantastic people and wonderful capability, but because there was this break between that level and their politicians, their collective response to Covid was middling to poor. I think our connection, including from the science community as well as the health

community, though, right to the politicians, was a part of our strength, part of our small size, that is something that is really special to us. And, so how to continue those strings and strands and to make the most - we are small, we are unique in so many ways, how do we make the most of those strengths while also mitigating those areas where, because, for the same reason we are small, we do struggle in a host of areas, and one of those areas where we do struggle is in the resilience piece. We can deploy a battalion one rotation but a second rotation and a third rotation; that is when it gets really, really, hard. And we are not geared up for that. The question is now, do we need a standing army, or do we need something that is more formalised than what is still a relatively informal approach - big question (Interviewee 28a – Deputy Chief Executive (Central Government), personal communication, October 5, 2020).

However, this approach does not suggest that the Defence Force is the simple solution to all the nation’s capability and capacity challenges. The system model introduced in Figure 21 (repeated for easy comprehension) clarifies that any response partner's primacy doesn’t overcome the many interoperability challenges. With a need for all parts of the system to work in harmony to succeed, this also represents the system's potential multiple points of failure.

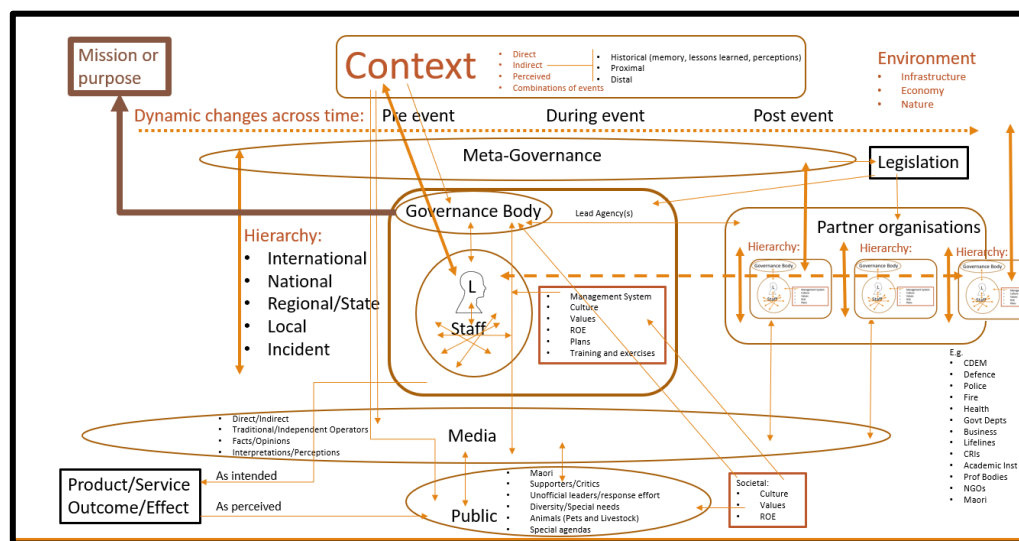


Figure 21 Systems Approach "as is" model (repeated)

One of things we struggled with as an organisation in the first few months, particularly in the response was, the participation that we had in the all-of-government area. We had a clash of values with some of the others working in that area. In particular, not everyone but some individuals who came from the more command and control uniformed side of things. . . . I am not going to name names, but you may know some of the people I am talking about, and some of that is down to individuals and styles, but where we really struggled, I had very senior people who had to form a tag team to go to those meetings because they would come back profoundly, sometimes distressed because the nature of the approach which is so foreign to the way we work here and that was quite a shock to all of us (Interviewee 26 - Controller, personal communication, October 9, 2020)

Therefore, the challenge is to reflect on the model within an extreme context (say Covid), highlight those factors representing benchmark structures and arrangements necessary to deliver well-being, and then transition to a new framework from the current model of suboptimal effectiveness. The danger is that the nation and leaders sit back and bask in international commentators' adoration of what New Zealand achieved during the pandemic versus the outcomes experienced within their own country, of which Atticus (2021) represents one of many.

Can New Zealand's Covid situation be attributed to the actions of one or even a few people – the Prime Minister, Dr Ashley Bloomfield, or the Quintet (the five controllers/commanders responsible for recommending and coordinating response actions)? What about our national pandemic plan, our recent history in confronting life-changing extreme contexts, and the role of the District Health Board staff? What role did the people play? Was New Zealand, indeed, a team of five million?

Looking at the situation again using the simpler model of the Leadership Capstan, how did the New Zealand experience compare with the case in the United Kingdom, China, Sweden, Australia, and the United States of America?

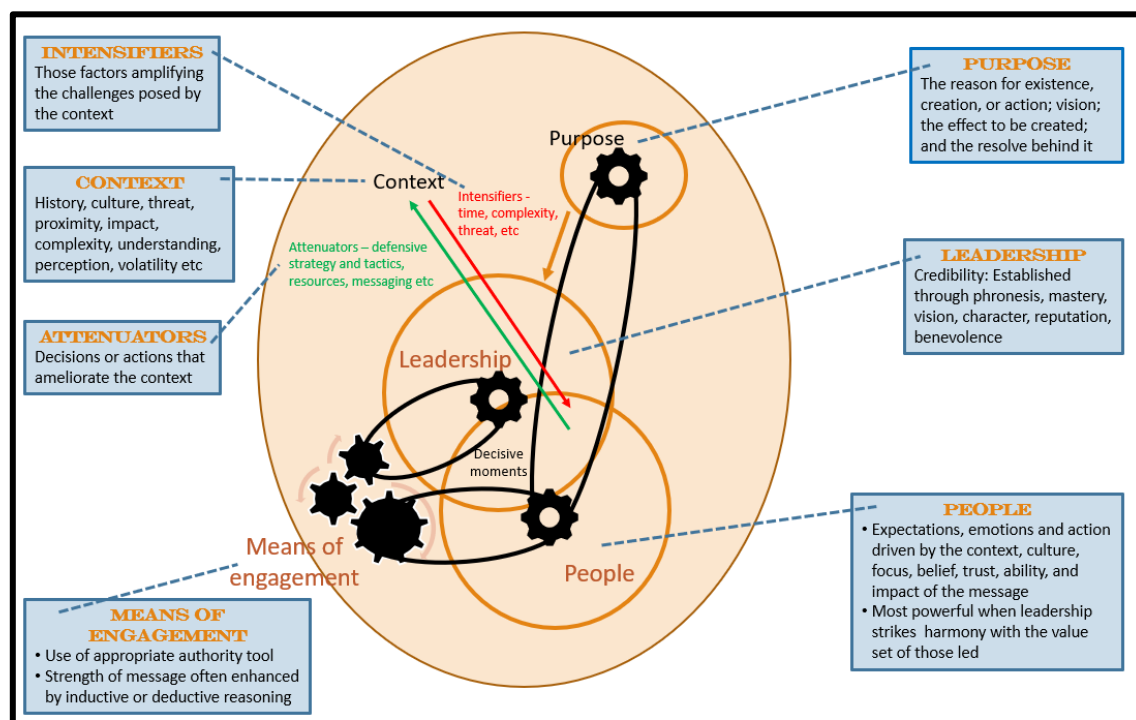


Figure 48 Leadership Capstan (explanatory version)

Could we have transplanted New Zealand's Prime Minister into the USA for a successful outcome? Would the situation in New Zealand have been as successful with President Trump at the helm? Could the Quintet of people coordinating New Zealand's response have been flown to support the leadership staff in the United Kingdom? Could the global pandemic have been exercised in a leadership think-tank for the successful outcome to be bottled and introduced as a "leadership vaccine" for replication elsewhere? The answer is clearly no! As can be derived from this thesis, the system within each country is a unique and living organism, complicated by a degree of global connectedness with governance at this level driven by an inadequate mandate. The collective people must find their own way to navigate the treacherous path through an extreme context, taking into account their leadership, the desired means of engagement, the

presenting context and the way this impacts the people, the attenuators used to combat this, and most importantly the purpose, how people choose to reimagine what their society might and should look like out the other side. The solution may not be replicable but the approach, using the Leadership Capstan, is.

Chapter Summary

The contents of this chapter reveal what should be the driving force behind leadership in extreme contexts and highlights the inadequacy of the current structures and policy instruments in being able to achieve this.

While it is clear that considerable thought has gone into what constitutes a 'future' security system as evidenced by Hoverd et al. (2017), and government intent has expressed some of this in broad terms (Department of the Prime Minister and Cabinet, 2016; Ministry of Defence, 2018; The Treasury, 2019), much more needs to occur. Based on analysis of the interview content, reviewing current security system doctrine (Department of the Prime Minister and Cabinet, 2016), and relevant scholarship, the following recommendations are made:

- Security considerations need to be embedded in all aspects of what constitutes effective response and recovery from extreme contexts and the groundwork laid before any significant event (risk mitigation and readiness). This approach means that the requirement exists in BAU and not just those structures and policy instruments targeting extreme contexts. Follow-on actions required include:
 - Developing fresh structures and policy instruments that meet the holistic, integrated needs of the new security environment (a fresh "to be" model of the figure on page 109).
 - Recruiting the right mix of people to cater for the highly diverse needs of all-of-government, all-hazards approach (across those four Rs).

- Creating and implementing mechanisms to broaden the experience base for key staff through a range of secondments and joint development programme options. This aspect is not simply a requirement for response operations but also a means for developing integrated, holistic solutions for some of our most vexing problems.
- Educating (including understanding the diverse perspectives involved), developing, training, and exercising in the new environment; all designed to support the agreed standard of well-being.
- Reimagining the role of the New Zealand Defence Force in the new security environment.
- Developing a fit-for-purpose national security strategy to replace the (more procedural) security system handbook.
- Committing to an approach of pro-activity and not simply reaction. And,
- A National Security Council should be established, elevating the current officials based National Security Group, to give national security issues greater prominence at a level commensurate with those who make the decisions. This requirement exists to provide effective governance of complex BAU challenges, not simply extreme contexts.

This chapter, while not forming part of the original research question, rounds out the thesis.

Leadership during extreme contexts exists for a reason. However, in the heat of the crisis, it is too easy to simply focus on what is immediately presenting and fail to consider your part in what should be an orchestrated holistic, integrated, and comprehensive effort, leading to well-being. While New Zealand has weathered many of the challenges posed by recent extreme contexts, the current structures and approaches fall short of what should be considered benchmark practice.

Blank

Chapter 11: Conclusion

Introduction

This thesis examined the author's journey and reflection as a leader and participant during extreme contexts, tapping into the cumulative wisdom of previous scholarship, supplemented by the first-hand experience of others who have led during, lived through, or been impacted in a broader sense by such events. It was an attempt to better understand leadership, in all its forms, and its ability to harness the collective power of those affected, channel this in a positive direction, ameliorate contextual factors, and chart a course out the other side. The research project was intended to consider:

- a. What are the leadership systems necessary to deliver more successful outcomes in extreme contexts and what is the standard for measuring success?
- b. What are the leadership capabilities required during extreme contexts and how do these differ from those capabilities required during business-as-usual conditions?
- c. Lastly, through effective leadership, how can we leverage these unfortunate events to thrive rather than merely survive?

It was also intended to address some of the questions of a more esoteric nature posed in the minds of those who have led through extreme contexts: what really happened there (it all happened in a blur), what does safe mean, would a different set of decisions have led to better outcomes, what is luck (and how can I get a piece of it)?

Methodology

Notwithstanding the limited research in this particular field of leadership, the scholarship identified in the initial literature review (Chapter two) provided a sound foundation upon which to build. The methodology used to achieve this enhancement can be characterised by an

interpretivism philosophy, an inductive approach, and a strategy that included case studies and autoethnography.

The data collection chosen for the research differed from most previous attempts to understand leadership in extreme contexts. It sought a 360-degree perspective to produce a neural network of the role and function, complete with its strengths and pressure points. It also examined leadership across a range of extreme contexts (military conflict, earthquakes, storms, floods, counter-terrorism operations, and a pandemic), plus a leadership scenario from a parallel sector - sport. This approach was to determine those factors that may/should have been present during some of the extreme context case studies but, for various reasons, were either masked or missing altogether.

The research also took an alternative path to the traditional western approach. The West tends to simplify things, focusing on key people or objects without reference to broader considerations, creating universal categories, and reducing complex matters to a rule to better understand cause and effect as a precursor to shaping outcomes. Eastern cultures, by contrast, tend to view things as part of a broader system using context as a key driver. This systems approach was the key to developing the interactive model (since labelled the Leadership Capstan) as a better way to explain and shape the dynamic and complex forces at play during extreme contexts.

Outcomes

[A systems approach to leadership \(Research Question one\)](#)

Findings from the interviews indicate that there is more to leadership than the characteristics and actions of a single individual and that it is not until the system in its entirety is considered that many of the opportunities for and challenges to successful mission completion are identified. The research also highlights the inadequacies of insular development programmes that focus exclusively on the “operational leader” when many other complementary roles are

essential for successful mission completion. Understanding the system is also the key to providing fit-for-purpose policy instruments, and structures, along with the collaboration necessary to prosecute effective outcomes.

Authority

Leadership is an art. As beauty is in the eyes of the beholder, successful leadership is as viewed by those being led. This approach requires a degree of flexibility to capture the mood and motivation of all those involved. It also requires a multi-layered approach to cater for the specific needs of discrete and disparate groups – staff, partners, and the diversity, loosely described as the general public.

Interview content strongly suggests that effective leadership during extreme contexts requires applying all the primary means of exercising authority - governance, command, leadership, and management. This approach may be concurrent or consecutive by the same person or shared by the broader team. The appropriate means of engagement vary depending on the context, leadership, purpose, and those being led. The precursor to exercising authority is ownership and credibility.

Contrary to what some modern leadership scholars suggest, command is not simply a coercive or directive form of leadership. Tracing the concept back to its source and comparing this intent against universal codified practice, it is a legitimate and powerful means of exercising authority, where a person is appointed to an organisation or institution and charged with a particular purpose or mission. As such, it exists independent of the nature of the parent organisation, albeit there are less than subtle distinctions between business, government sector, sporting organisations, and military/para-military organisations.

Leadership Capabilities (Research Question two)

While there is a set of standard leadership requirements for extreme contexts, there can be no standard approach to how these responsibilities should be discharged. Analysis of content

generated from interviews suggests that any approach will depend on the intended purpose, prevailing context, capabilities possessed by leadership, and characteristics of the people being led. Accordingly, any guidance for leadership should be non-prescriptive and framed in terms of the systematic approach proposed in the Leadership Capstan.

Mindful of the criticality of all those entities comprising the leadership system, a 360-degree data-gathering approach to determining those capabilities required is likely to lead to a more comprehensive suite of those factors inherent in leadership in extreme contexts. This approach may help explain some of the differences between findings from this research and previous scholarship on the topic.

There are differences between (BAU) leadership and leadership in extreme contexts. These differences result from a need to deal with context intensifiers, a wide range of stakeholders, and the employment of a broad range of exercising authority; it requires a different range of professional smarts, all operating in an environment characterised by dynamism, uncertainty, and complexity.

Thriving during extreme contexts (Research Question three)

Too often, there is an inordinate focus on risk without an appropriate matching of opportunity. Similarly, there is rarely a cohesive plan to chart a pathway through the extreme context to a destination out the other side. The response merely addresses the many challenges immediately in focus, meaning long-term gains achieved result from coincidence. Even in conflict situations, the grand strategy focus must not simply be on winning the war but on winning the peace afterwards. The constituent points outlined in Chapter nine must form part of any plan formulated to meet the challenges of extreme contexts. The requirement to achieve well-being demands nothing less.

Consequences for the security sector

In addition to addressing the challenges posed in the research questions, the research outcomes highlight the importance of recent changes in the security sector, particularly to better define those outcomes (the effect) expected during and after extreme contexts. Success here will demand a higher standard of integration and collaboration than is currently experienced.

Commensurate with an all-encompassing concept of security is an understanding that leadership in extreme contexts is not simply the responsibility of those leading response operations. Every entity within the Leadership Capstan has a role to play, particularly the public, who should have a personal stake in their continuity. This acknowledgement is equally essential, if not more, for those in governance roles. You cannot thrive without (a future-state) purpose. In most instances, the relevant governing bodies' responsibility is to set this, articulate it appropriately, and play their role before, during, and after response operations.

Accordingly, leadership training and development should target all those in key roles to prepare them to discharge their responsibilities pre, during, and post extreme context. Leaders must learn to develop and hone their style and approach, being mindful of the context and taking account of the needs and desires of those being led. A paint-by-numbers approach in these situations will not result in a masterpiece.

The nation needs to determine the optimal arrangements and mechanisms necessary to deliver well-being solutions. Response partners, along with those covering risk mitigation, readiness, and recovery, need to acquire the policy instruments, structure, degree of jointness, and mutual understanding to deliver more effective outcomes. This situation applies not only during extreme contexts but is also required to tackle some of the nation's more complex security-related BAU challenges. This requirement will also include reimagining the role of the Defence Force during times of domestic crises and how this might occur without adversely impacting military capability building and maintenance.

Consistent with eastern culture, leadership approaches must take (strong) account of system and context and not merely rely on a western propensity for rules and categorisation. Using the analogy in Chapter five, this requires a strong focus on the chef's skill and the diner's reaction, not simply on an ability to reduce the relationship to a repeatable recipe.

Lastly, all extreme context situations are a security threat and must be treated as such. Just as Kaikōura was not simply a public safety risk, the current pandemic is not merely a health hazard. To view, these otherwise invites a survival outcome, at best, with well-being a coincidental by-product rather than the intended goal.

The Leadership Capstan

There is no universal leadership theory or group of theories that are sufficiently relevant and flexible to cope with the dynamism present in extreme contexts. Western civilisation's rule-based categorisation lacks the agility to cater to the volatility, uncertainty, complexity, and ambiguity present during extreme contexts and the consequent diversity of impacts on people.

The Leadership Capstan lacks the elegant simplicity of a theory, but then leadership in extreme contexts cannot be converted to a simple linear equation. Extreme contexts are a complex, multifaceted, constantly evolving set of challenges that demand a systematic, integrated, holistic, multifaceted set of solutions. Even then, the immediate solutions may still result in unfulfilled desires and unsuccessful outcomes. Leadership in extreme contexts has much in common with a game of chess. Using this analogy, leadership assesses, decides, acts, and then the context changes. The cycle is then repeated. This flow means the context is constantly changing, meaning leadership frequently deals with a fresh or evolved set of intensifiers, plus a changed mindset (and expectation) of the people involved.

While currently, proactive organisations prepare plans for such events, these plans cannot and do not cover the full extent of those features identified in the Leadership Capstan. The use of this model should help identify those discrete features that must be addressed as part of any

response and recovery effort. Identifying future-state purpose (vision) as a vital enabler of a successful solution, evident in some extreme contexts (military and sport), but not in others (earthquakes and pandemics), is a crucial antecedent to achieving a thriving outcome. It would be inconceivable that a nation would go to war without a defined purpose or a national sports team enter a sporting tournament to merely participate. Yet, during an earthquake, response objectives have no broader mandate than to address (mitigate, manage, and respond to) the contextual impact (context and associated intensifiers). This is not enough!

People are not sufficiently homogeneous to ignore the level of detailed analysis that might assist leadership capture mood and expectation as an antecedent to effective decision-making and engagement.

Extreme contexts cannot be solved in a laboratory and then reinserted back into the real world, meaning truly realistic exercises that test every response aspect are particularly challenging. It also means that circumstances leading to successful outcomes cannot be bottled and exported as a sure-fire recipe for use in other contexts and cultures/societies. Nonetheless, the approach does satisfy the requirements of generalisability and replicability. The Leadership Capstan and its companion overlays (Figures 22, 41, 44, 45, 46, and Table 21) should go a long way to assist (the collective) leadership in understanding the environment in which they are operating and formulate a winning approach pre, during, and post-event.

What Hannah et al. (2009) initiated as a starting point for further development has thus been enhanced, with this new model considered applicable against a broad set of extreme contexts.

Candidates for further research

Arising from the research conducted, have been several issues, the answers to which are outside the scope of this thesis. These are included below as potential candidates for further research:

- a. The majority of the material considered within the literature review was Euro/American centric in origin. With this particular research being generously informed by an eastern approach and the value this brought to the findings, the obvious question is - are there other cultural approaches with the potential to enhance current western leadership theory and practice?
- b. The importance of those people being led has been emphasised throughout the thesis. Where is the civil equivalent of the US Army's Human Terrain System? Much more work is required to understand the general public's mood, motivations, and actions during extreme contexts and, by extension, key groups within the public (e.g., inter-generational groups), including vulnerable people, CALD groups).
- c. While Chapter four has compiled a "as is" system model, further work is required to generate the optimum "to be" systems model, applicable at both national and local levels.
- d. The relevance of CIMS in non-emergency management scenarios. What are the optimally integrated staffing structures during extreme contexts for business, recovery, and grand strategy operations?
- e. A more in-depth look at leadership following extreme contexts, to examine those adjustments required in the transition from response to recovery.
- f. The role of an adversary during extreme contexts requires further development to expand the Leadership Capstan to better cater for conflict, sport, and business scenarios.
- g. An examination of the parallels between Leadership in Extreme Contexts and (more general) performance in extreme contexts.
- h. Further investigation of the psychological and physiological aspects of Leadership in Extreme Contexts.

Taking the thesis findings further

The conclusions are intended to complement the current body of scholarly leadership material, by introducing the interactive Leadership Capstan to explain and shape the dynamic and complex forces at play during extreme contexts, breaking the leadership challenge into more manageable building blocks. The findings also highlight those factors that are more likely to lead to thriving outcomes when the tendency is to address the presenting threats in a more transactional manner.

This enhanced scholarly platform is then available to inform those development programmes charged with grooming future leaders and promote a reimagination of those national security sector structures, policy instruments, and general arrangements supposedly designed to meet well-being imperatives during business-as-usual and extreme contexts.

Thesis Summary

Leadership in extreme contexts is a particularly demanding challenge for those sufficiently bold to accept the call. It does not require a higher form of leadership but simply its own personalised set of capabilities. Given the calamitous nature of extreme contexts, the complexity, dynamism, and uniqueness of the initiating event, the sharp focus of context intensifiers, and the diverse reaction of the people impacted, this type of leadership has a special set of challenges and operates very much in the spotlight of everyone. Because the timely and effective excising of the threat and impact would require the powers of a deity, leadership in extreme contexts will often fall short in the eyes of many. Success will require leadership to continually adjudicate the risk versus opportunity conundrum to perfection, sometimes aided by an element of luck.

People in governance roles plus the general public sometimes overlook their role in a distributed ownership model. During extreme contexts, while someone will represent the focal point of leadership, it is a distributed function, relying on coordinated and integrated efforts of many who may or not be as committed to the joint cause. This distributed leadership will occur across

time (before, during, and after). And, paradoxically, the people judging the efficacy of leadership during extreme contexts will often be those most responsible for resilience building in the first place.

Uncertainty and volatility are not solely the domain of extreme events. Business frequently operates within these conditions, with the winner best able to seize the initiative in dynamic and unpredictable market conditions. We should demand nothing less than a similar outcome for society – thriving. Or, as the modern definition of security would suggest, nothing less than well-being.

Personal reflection and curiosity

What commenced as a simple voyage of discovery has since evolved considerably. It would have been advantageous to have known at least some of this recently acquired material during the forty-two years spent as a leadership practitioner. In some cases, where knowledge had been acquired, fresh material has since cast doubts on its authenticity. For every answer found, a further two gaps in understanding were revealed. In many cases, the appropriate balance between risk and opportunity depended on future context, influenced by an element of luck. Decision-making in these situations is therefore challenging; the more decisions made, the greater the chance of getting one wrong. The All Blacks, as good as they are, occasionally lose. In a typical series, they simply target the next game. However, if it is a knockout match in a world cup, there is no next match. Leadership in extreme contexts accordingly need to factor recoverability into any risk/opportunity-based decision. It is not simply a case of decisions being either right or wrong, but whether the outcomes are successful or unsuccessful (and understanding why); all achieved in a cauldron of critical opinion, anxiety, loss, and sometimes tragedy.

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs

to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat (Extract from citizenship in a republic speech given by Theodore Roosevelt, former President of the United States, at the Sorbonne in Paris, France, on 23 April 1910 as cited in Roosevelt & O'Toole, 2012, p. 122).

References

- Acharya, A. (2020). On this day: That man Elliott and his moment with Dale Steyn. Retrieved from <https://sportstar.thehindu.com/cricket/on-this-day-2015-cricket-new-zealand-south-africa-world-cup-semifinal-grant-elliott-six-dale-steyn/article31145283.ece>
- Adair, J. E. (1980). *Action-centred leadership*. Farnborough, England: Gower.
- Adair, J. E. (2011). *The John Adair lexicon of leadership*. London, England: Kogan Page.
- Adams, R. (2017). *Beyond command and control: Leadership, culture and risk*. New York, NY: CRC Press.
- Alkhaldi, K., Austin, M. L., Cura, B. A., Dantzler, D., Holland, L., Maples, D. L., . . . Marcus, L. J. (2017). Are you ready? Crisis leadership in a hyper-VUCA environment. *Journal of Emergency Management, 15*(3), 139-155. doi:10.5055/jem.2017.0321
- Alkhaldi, K., Austin, M. L., Cura, B. A., Dantzler, D., Holland, L., Maples, D. L., . . . Marcus, L. J. (2017). Are you ready? Crisis leadership in a hyper-VUCA environment. *Journal of Emergency Management, 15*(2), 117-132. doi:10.5055/jem.2017.0320
- Allawi, A. A. (2007). *The occupation of Iraq: Winning the war, losing the peace*. New Haven, CT: Yale University Press.
- America's Cup: Team NZ and USA asks public to leave Dean Barker alone. (2013). Retrieved from <https://www.abc.net.au/news/2013-09-27/team-new-zealand-back-skipper-dean-barker-americas-cup-loss/4984284>
- Andy Haden dives to save rugby test. (1978). Retrieved from <https://nzhistory.govt.nz/page/andy-haden-dive-saves-rugby-test>
- Antonakis, J., & Day, D. V. (2018). *The nature of leadership* (3rd ed.). Los Angeles, CA: Sage. doi:10.4135/9781506395029
- Arcus, S. (Ed.). (2012). *The four pillars of governance best practice*. Wellington, New Zealand: Institute of Directors in New Zealand.
- Ashcroft, A. (2016). Donald Trump: Narcissist, psychopath or representative of the people? *Psychotherapy and Politics International, 14*(3), 217-222. 10.1002/ppi.1395
- Atticus, T. (2021). Watching New Zealand's Covid success from bungling Britain has been torture. *The Guardian*. Retrieved from <https://www.theguardian.com/world/commentisfree/2021/jan/05/watching-new-zealands-covid-success-from-britain-has-shown-me-nations-make-their-own-luck>
- Australian Defence Force. (2009). *Command and control* (ADDP 00.1). Retrieved from <https://baixardoc.com/documents/addp-001-command-and-control-5c89684a9db5d>
- Australian Institute of Company Directors. (2016). Role of Chief Executive Officer (CEO) or Managing Director (MD). Retrieved from <https://aicd.companydirectors.com.au/-/media/cd2/resources/director-resources/director-tools/pdf/05446312memdirectorgrroleofchiefexecutiveofficerceoomana.ashx>

- Bailey, M. (2021). *After the Black Death: Economy, society, and the law in fourteenth-century England*. Oxford, England: Oxford University Press.
- Baldrige Performance Excellence Program. (2021). Retrieved from <https://www.nist.gov/baldrige>
- Bass, B. M., & Bass, R. (2008). *The Bass handbook of leadership: Theory, research, and managerial applications* (4th ed.). New York, NY: Free Press.
- Bennis, W. G., & Nanus, B. (1985). *Leaders: The strategies for taking charge*. New York, NY: Harper & Row. doi:10.1177/019263658707150021
- Bennis, W. G., & Nanus, B. (2004). *Leaders: Strategies for taking charge* (2nd ed.). New York, NY: HarperBusiness Essentials.
- Berim, R., & Berisha, G. (2014). Systems theory and systems approach to leadership. *ILIRIA International Review*, 4(1), 59-76. doi:10.21113/iir.v4i1.53
- Bevir, M. (2012). *Governance: A very short introduction*. Oxford, England: Oxford University Press.
- Bingham, E., & Dudding, A. (2020). Inside Jacinda Ardern's coronavirus bubble: What's on the PM's mind during Covid-19 crisis [PodCast]. <https://www.stuff.co.nz/national/health/coronavirus/120954236/inside-jacinda-arderns-coronavirus-bubble-whats-on-the-pms-mind-during-covid19-crisis>
- Blackham, M. (2019). After Whakaari/White Island, it's up to us to save ourselves. Retrieved from <https://www.stuff.co.nz/national/118219897/after-whakaariwhite-island-its-up-to-us-to-save-ourselves>
- Blackham, M. (2020). The place for courage. Retrieved from <https://www.linkedin.com/pulse/place-courage-mark-blackham/?trackingId=sbrvprCsE3v%2B4JbqdfKMxQ%3D%3D>
- Blake, D., Marlowe, J., & Johnston, D. (2017). Get prepared: Discourse for the privileged? *International Journal of Disaster Risk Reduction*, 25, 283-288. doi:10.1016/j.ijdrr.2017.09.012
- Bloch-Schulman, S. (2016). A critique of methods in the scholarship of teaching and learning in philosophy. *Teaching & Learning Inquiry*, 4(1) 10.20343/teachlearninqu.4.1.10
- Boin, A., Hart, P. T., McConnell, A., & Preston, T. (2010). Leadership style, crisis response, and blame management: The case of Hurricane Katrina. *Public Administration*, 88(3), 706-723. doi:10.1111/j.1467-9299.2010.01836.x
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Bridgman, T., Cummings, S., & Ballard, J. (2019). Who built Maslow's pyramid? A history of the creation of management studies' most famous symbol and its implications for management education. *Academy of Management Learning & Education*, 18(1), 81-98. doi:10.5465/amle.2017.0351

- Brown, N. A., Orchiston, C., Rovins, J. E., Feldmann-Jensen, S., & Johnston, D. (2018). An integrative framework for investigating disaster resilience within the hotel sector. *Journal of Hospitality and Tourism Management*, 36, 67-75.
doi:10.1016/j.jhtm.2018.07.004
- Bungay, S. F. (2011). The executive's trinity: Management, leadership - and command. *The Ashbridge Journal*, 34-39.
[http://tools.ashridge.org.uk/Website/Content.nsf/FileLibrary/A4558FB9A6BFC3E5802578E60052C388/\\$file/360Summer2011_Perspectives.pdf](http://tools.ashridge.org.uk/Website/Content.nsf/FileLibrary/A4558FB9A6BFC3E5802578E60052C388/$file/360Summer2011_Perspectives.pdf)
- Burr, L. (2017, March 31). Statistics House building 'could have caused fatalities' in Kaikoura earthquake. *Newshub*. Retrieved from <https://www.newshub.co.nz/home/politics/2017/03/statistics-house-building-could-have-caused-fatalities-in-kaik-ura-earthquake.html>
- Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. London, England: Heinemann.
- Caelli, K. (2000). The changing face of phenomenological research: Traditional and American phenomenology in nursing. *Qualitative Health Research*, 10(3), 366-377.
doi:10.1177/104973200129118507
- Cameron, B. (2020). Captaining a team of 5 Million: New Zealand beats back Covid-19, March – June 2020. Retrieved from <https://www.anzsog.edu.au/resource-library/case-library/captaining-a-team-of-5-million-new-zealand-beats-back-covid-19>
- Carroll, J. (2019). Pike River re-entry: Police won't be among first inside mine after risk assessment raised safety concerns. Retrieved from <https://www.stuff.co.nz/national/110096334/safety-first-before-police-pike-river-mine-reentry>
- Cavana, R. Y., Sekaran, U., & Delahaye, B. L. (2001). *Applied business research: Qualitative and quantitative methods*. Milton, Australia: Wiley.
- Chang, S. (2018). The Dow's tumultuous history, in one chart. Retrieved from <https://www.marketwatch.com/story/the-dows-tumultuous-120-year-history-in-one-chart-2017-03-23>
- Chee, K. (2021). 'Success tells you nothing': Learning through failure is the path to progress, says Dyson at SUTD forum. Retrieved from <https://www.straitstimes.com/tech/tech-news/learning-through-failure-is-the-path-to-progress-dyson>
- Chen, C., & Lee, Y. (Eds.). (2008). *Leadership and management in China: Philosophies, theories, and practices*. Cambridge, England: Cambridge University Press.
doi:10.1017/CBO9780511753763
- The Christchurch rebuild: A tale of two cities. (2021). Retrieved from <https://www.auckland.ac.nz/en/news/2021/08/25/the-christchurch-rebuild-a-tale-of-two-cities.html>
- Christchurch Student Volunteer Army. (2020). Our story. Retrieved from <https://sva.org.nz/our-story/>

- Christchurch three years on: Orion keeps city humming. (2014). Retrieved from <https://www.nbr.co.nz/article/christchurch-three-years-orion-keeps-city-humming-ns-152364>
- Civil Defence Emergency Management Act, No 33. (2002). Retrieved from <http://www.legislation.govt.nz/act/public/2002/0033/51.0/DLM149789.html>
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology, 12*(3), 297-298. doi:10.1080/17439760.2016.1262613
- Coffey, G. W. (2010). *A systems approach to leadership: How to create sustained high performance in a complex and uncertain environment*. Berlin, Germany: Springer.
- Colmar Brunton. (2014). Things we believe make us Kiwi. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11188987
- Cooke, H. (2018, December 17). Government confident it can eradicate Mycoplasma bovis. Retrieved from <https://www.stuff.co.nz/business/farming/agribusiness/109418687/government-confident-it-can-eradicate-mycoplasma-bovis>
- Corbett, A. (2007). The death of mission command. *Naval Review, 95*(3), 207-213. https://www.researchgate.net/publication/286048655_The_Death_of_Mission_Command_NAVAL_REVIEW_Aug_2007_Vol_95_Issue_3_ISSN_1741-5535
- Cornwell, B. (2014). *Waterloo: The history of four days, three armies and three battles*. London, England: William Collins.
- Cousins, S. (2020). New Zealand eliminates COVID-19. *Lancet, 395*(10235), 1474-1474. doi:10.1016/S0140-6736(20)31097-7
- Covid-19 and Beyond: Scholarship, analysis and comments on New Zealand developments. (2020). Retrieved from <https://www.wgtn.ac.nz/public-law/projects/covid/scholarship-analysis-and-comments>
- Cubrinovski, M., Bray, J., de la Torre, C., Olsen, M., Bradley, B., Chiaro, G., . . . Wotherspoon, L. (2017). Liquefaction effects and associated damages observed at the Wellington Centreport from the Kaikoura earthquake. *Bulletin of the New Zealand Society for Earthquake Engineering, 50*(2), 152-173. doi:10.5459/bnzsee.50.2.152-173
- Cut Out Pass. (n.d.). Retrieved from <https://www.rugbytoolbox.co.nz/training/technique/cut-out-pass-1>
- Cwiak, C. L., Campbell, R., Cassavechia, M. G., Haynes, C., Lloyd, L. A., Brockway, N., . . . Senger, M. (2017). Emergency management leadership in 2030: Shaping the next generation meta-leader. *Journal of Emergency Management, 15*(2), 81-97. doi:10.5055/jem.2017.0317
- Daalder, M. (2021). Extremism: Half of Kiwis hold beliefs linked to misinformation. Retrieved from <https://www.newsroom.co.nz/half-of-kiwis-hold-beliefs-linked-to-misinformation>

- DeChurch, L. A., Burke, C. S., Shuffler, M. L., Lyons, R., Doty, D., & Salas, E. (2011). A historiometric analysis of leadership in mission critical multiteam environments. *The Leadership Quarterly*, 22(1), 152-169. doi:10.1016/j.leaqua.2010.12.013
- Department of the Prime Minister and Cabinet. (2016). *National security system handbook*. Wellington. Retrieved from <https://dpmc.govt.nz/publications/national-security-system-handbook-html>
- Department of the Prime Minister and Cabinet. (2019). *Coordinated incident management system*. Retrieved from <https://www.civildefence.govt.nz/assets/Uploads/CIMS-3rd-edition-FINAL-Aug-2019.pdf>
- Deverell, E. (2012). Investigating the roots of crisis management studies and outlining future trajectories for the field. *Journal of Homeland Security & Emergency Management*, 9(1), 1-18. doi:10.1515/1547-7355.24
- Devitt, K. R., & Borodzicz, E. P. (2008). Interwoven leadership: The missing link in multi-agency major incident response. *Journal of Contingencies & Crisis Management*, 16(4), 208-216. doi:10.1111/j.1468-5973.2008.00551.x
- Devlin, C., Cann, G., & Flahive, B. (2016). Questions asked about closing Wellington CBD as evacuations continue. Retrieved from <https://www.stuff.co.nz/national/nz-earthquake/86576599/more-wellington-buildings-cordoned-off-over-earthquake-safety-fears>
- Dive, B. (2016). *Mission mastery: Revealing a 100 year old leadership secret*. London, England: Springer Science. doi:10.1007/978-3-319-25223-0
- Dixon, N. F. (1976). *On the psychology of military incompetence*. New York, NY: Basic Books.
- Douglas, M. (1993). Governability: A question of culture. *Millennium*, 22(3), 463-481. doi:10.1177/03058298930220031101
- Doyle, E. E. H., Becker, J. S., Neely, D. P., Johnston, D. M., & Pepperell, B. (2015). Knowledge transfer between communities, practitioners, and researchers: A case study for community resilience in Wellington, New Zealand. *Australasian Journal of Disaster & Trauma Studies*, 19(2), 55-66. http://trauma.massey.ac.nz/issues/2015-2/AJDTS_19_2_Doyle.pdf
- Edmund, H. (1941). Phänomenologie und anthropologie. *Philosophy and Phenomenological Research*, 2(1), 1-14. doi:10.2307/2102671
- Ekaterina, E. V. (2012). The nature of chess expertise: Knowledge or search? *Psychology in Russia*, 1(5), 511-528. <https://doaj.org/article/6a1bf3074bde4aedba81544703c3048a> doi:10.11621/pir.2012.0032
- El Hussein, M., Hirst, S., Salyers, V., & Osuji, J. (2014). Using grounded theory as a method of inquiry: Advantages and disadvantages. *Qualitative Report*, 19(27), 1-14. <https://nsuworks.nova.edu/tqr/vol19/iss27/3> doi:10.46743/2160-3715/2014.1209
- Employment Relations Act, No. 24. (2000). Retrieved from <http://www.legislation.govt.nz/act/public/2000/0024/latest/DLM58317.html>

- Eubanks, D. L., Antes, A. L., Friedrich, T. L., Caughron, J. J., Blackwell, L. V., Bedell-Avers, K. E., & Mumford, M. D. (2010). Criticism and outstanding leadership: An evaluation of leader reactions and critical outcomes. *The Leadership Quarterly*, *21*, 365-388. doi:10.1016/j.leaqua.2010.03.003
- Evans, M. G. (1996). R. J. House's "A path-goal theory of leader effectiveness". *The Leadership Quarterly*, *7*(3), 305-309. doi:10.1016/S1048-9843(96)90021-1
- Finlayson, C. (2020). Coronavirus: Lockdown was vague and threatening, says former Attorney-General. Retrieved from <https://www.stuff.co.nz/national/health/coronavirus/121510599/coronavirus-lockdown-was-vague-and-threatening-says-former-attorneygeneral>
- Fire and Emergency New Zealand. (2013). *Incident management - command and control*.
- Fisher, D. (2021). Covid 19 coronavirus: Pandemic pressure at MIQ facilities creates military-civilian culture clash. *New Zealand Herald*. Retrieved from <https://www.nzherald.co.nz/nz/covid-19-coronavirus-pandemic-pressure-at-miq-facilities-creates-military-civilian-culture-clash/A7ZOW5ZJ4PF2K7GUMIFQUVJLOE/>
- Fleisher, S. (2019). Wellington City's emergency management response to the November 2016 Kaikoura earthquake. *Australasian Journal of Disaster & Trauma Studies*, *23*(2), 91-99. https://www.massey.ac.nz/~trauma/issues/2019-2/AJDTs_23_2_Fleisher.pdf
- Flin, R., & Slaven, G. (1996). Personality and emergency command ability. *Disaster Prevention and Management: An International Journal*, *5*(1), 40-46. doi:10.1108/09653569610109550
- Flin, R. H., & Arbutnot, K. (2002). *Incident command: Tales from the hot seat*. Aldershot, England: Ashgate.
- Fraher, A., Branicki, L. J., & Grint, K. (2017). Mindfulness in action: Discovering how US Navy SEALs build capacity for mindfulness in high reliability organisations (HROS). *Academy of Management Discoveries*, *3*(3), 239-261. doi:10.5465/amd.2014.0146
- Fraher, A., & Grint, K. (2018). Agonistic governance: The antinomies of decision-making in US Navy SEALs. *Leadership*, *14*(4), 395-414. doi:10.1177/1742715016680910
- Freiberg, K., & Freiberg, J. (1998). *Nuts!: Southwest Airlines' crazy recipe for business and personal success*. New York, NY: Broadway Books.
- Funtowicz, S. O., & Ravetz, J. R. (1993). Science for the post-normal age. *Futures*, *25*, 739-755. doi:10.1016/0016-3287(93)90022-L
- Geier, M. T. (2016). Leadership in extreme contexts: Transformational leadership, performance beyond expectations? *Journal of Leadership and Organizational Studies*, *23*(3), 234-247. doi:10.1177/1548051815627359
- Gerring, J. (2017). *Case study research: Principles and practices* (2nd ed.). Cambridge, England: Cambridge University Press.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

- GNS Science. (2020). *New Zealand earthquakes*. Retrieved from <https://www.gns.cri.nz/Home/Learning/Science-Topics/Earthquakes/New-Zealand-Earthquakes>
- GNS Science. (n.d.). Wellington Fault. Retrieved from <https://www.gns.cri.nz/Home/Learning/Science-Topics/Earthquakes/Major-Faults-in-New-Zealand/Wellington-Fault>
- González, R. J. (2020). Beyond the Human Terrain System: A brief critical history (and a look ahead). *Contemporary Social Science*, 15(2), 227-240. doi:10.1080/21582041.2018.1457171
- Graham-McLay, C. (2020). New Zealand lockdown releases charity spirit as Ardern 'be kind' mantra kicks in. *The Guardian*. Retrieved from <https://www.theguardian.com/world/2020/apr/22/new-zealand-lockdown-releases-charity-spirit-as-ardern-be-kind-mantra-kicks-in>
- Greer, G., & Saunders, C. (2012). *The costs of Psa-V to the New Zealand kiwifruit industry and the wider community*. Lincoln, New Zealand: Lincoln University. Retrieved from <http://www.kvh.org.nz/vdb/document/91146>
- Grijalva, E., & Newman, D. A. (2015). Narcissism and counterproductive work behavior (CWB): Meta-analysis and consideration of collectivist culture, big five personality, and narcissism's facet structure. *Applied Psychology: An International Review*, 64(1), 93-126. doi:10.1111/apps.12025
- Grint, K. (2005). *Leadership: Limits and possibilities*. New York, NY: Palgrave Macmillan.
- Grint, K. (2008). *Wicked problems and clumsy solutions: The role of leadership*. Retrieved from https://www.researchgate.net/publication/281357989_Wicked_problems_and_clumsy_solutions_The_role_of_leadership
- Grint, K. (2010). *Leadership: A very short introduction*. Oxford, England: Oxford University Press.
- Hannah, S. T., Uhl-Bien, M., Avolio, B. J., & Cavarretta, F. L. (2009). A framework for examining leadership in extreme contexts. *The Leadership Quarterly*, 20, 897-919. doi:10.1016/j.leaqua.2009.09.006
- Harris, C. (2016). 'Musical chairs' as quake closes 11 per cent of Wellington CBD space. Retrieved from <https://www.stuff.co.nz/business/property/87287789/quake-closes-11-per-cent-of-capitals-cbd-space>
- Health and Safety at Work Act, No.70. (2015). Retrieved from <http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html>
- Health Navigator New Zealand. (n.d.). Severe acute respiratory syndrome (SARS). Retrieved from <https://www.healthnavigator.org.nz/health-a-z/s/severe-acute-respiratory-syndrome-sars/>
- Heifetz, R. (1994). *Leadership without easy answers*. Cambridge, MA: Harvard University Press.
- Hendry, J. (2013). *Management: A very short introduction*. Oxford, England: Oxford University Press.

- Hersey, P., Blanchard, K. H., & Johnson, D. E. (2013). *Management of organizational behavior: Leading human resources* (10th ed.). Boston, MA: Pearson.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work*. New York, NY: John Wiley.
- Hill, M. (n.d.). Anniversary of the 1931 Hawke's Bay earthquake. Retrieved from <https://knowledge.aidr.org.au/resources/ajem-apr-2016-anniversary-of-the-1931-hawkes-bay-earthquake/>
- History timeline: Post-it notes. (2021). Retrieved from https://www.post-it.com/3M/en_US/post-it/contact-us/about-us/
- Hofstede, G. (1980). Motivation, leadership, and organization: Do American theories apply abroad? *Organizational Dynamics*, 9(1), 42-63. doi:10.1016/0090-2616(80)90013-3
- Holenweger, M., Jager, M. K., & Kernic, F. (2017). *Leadership in extreme situations*. Cham, Switzerland: Springer.
- Holloman, C. R. (1968). Leadership and headship: There is a difference. *Business and Economic Review*, 32(2), 35-37. Retrieved from <http://www.bereview.pk/index.php/BER>
- Hoverd, W., Nelson, N., & Bradley, C. (2017). *New Zealand national security: Challenges, trends and issues*. Auckland, New Zealand: Massey University Press.
- Howarth, J. D., Cochran, U. A., Langridge, R. M., Clark, K., Fitzsimons, S. J., Berryman, K., . . . Strong, D. T. (2018). Past large earthquakes on the Alpine Fault: Paleoseismological progress and future directions. *New Zealand Journal of Geology and Geophysics*, 61, 309-328. doi:10.1080/00288306.2018.1464658
- Intagliata, J., Ulrich, D., & Smallwood, N. (2000). Leveraging leadership competencies to produce leadership brand: Creating distinctiveness by focusing on strategy and results. *Human Resource Planning*, 23(3), 12-23.
- Ironfield, D. (2000). *Impact of major defence projects: A case study of the ANZAC ship project*. Canberra, Australia: Australian Industry Group Defence Council. Retrieved from <https://www.aigroup.com.au/business-services/industrysectors/defence/>
- Irvine, D. D. (1938). The French and Prussian staff systems before 1870. *The Journal of the American Military Foundation*, 2(4), 192-203. doi:10.2307/3038792
- John, A. (2018, August 10). Fonterra shares halt as forecast reviewed. *The Timaru Herald*, p. 16. Retrieved from <https://www.stuff.co.nz/timaru-herald>
- Johnston, D. (2020). Coach Gary Stead's holiday absence a disaster for his Black Caps and cricket. Retrieved from <https://www.stuff.co.nz/sport/opinion/119288247/coach-gary-steads-holiday-absence-a-disaster-for-his-black-caps-and-cricket>
- Joint Doctrine Centre. (2016). *Joint military appreciation process*. Canberra, Australia: Defence Publishing Service.
- Jones, M. (2017). *The Black Prince*. London, England: Head of Zeus.

- Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Farrar, Straus and Giroux.
- Kahneman, D., & Klein, G. (2009). Conditions for intuitive expertise: A failure to disagree. *American Psychologist*, *64*(6), 515-526. doi:10.1037/a0016755
- Kanter, R. M. (2012). Ten reasons winners keep winning, aside from skill. *Harvard Business Review*. Retrieved from <https://hbr.org/2012/08/ten-reasons-winners-keep-winni.html>
- Karp, P. (2019). Scott Morrison apologises for taking holiday during Australia's bushfire crisis. *The Guardian*. Retrieved from <https://www.theguardian.com/australia-news/2019/dec/20/scott-morrison-apologises-for-taking-holiday-during-australias-bushfire-crisis>
- Keller, K., & Matusitz, J. (2015). Examining U.S. Navy SEALs through cognitive resources theory (CRT). *Journal of Applied Security Research*, *10*(3), 317-329. doi:10.1080/19361610.2015.1038764
- Kenney, C. M., Phibbs, S. R., Paton, D., Reid, J., & Johnston, D. M. (2015). Community-led disaster risk management: A Māori response to Ōtautahi (Christchurch) earthquakes ... Second Integrated Research on Disaster Risk Conference, Beijing, China, June 7th- 9th, 2014. *Australasian Journal of Disaster & Trauma Studies*, *19*, 9-20.
- Khurana, R. (2002). The curse of the superstar CEO. *Harvard Business Review*, *80*(9), 60-66. <https://hbr.org/magazine>
- Khurana, R. (2004). *Searching for a corporate savior: The irrational quest for charismatic CEOs*. Princeton, NJ: Princeton University Press.
- Kitteridge, R., Valins, O., Holland, S., & Carter, R. (2020). *Second rapid review of the COVID-19 all-of-government response*. Retrieved from <https://covid19.govt.nz/assets/resources/22-Mar-21-Proactive-Release/Second-rapid-review-of-the-COVID-19-all-of-government-response.pdf>
- Kiwibank New Zealander of the Year. (2021). Retrieved from <https://nzawards.org.nz/awards/new-zealander-year/2021/>
- Klein, G. A. (2017). *Sources of power: How people make decisions*. Cambridge, MA: MIT Press.
- Kock, N., Parente, R., & Verville, J. (2008). Can Hofstede's model explain national differences in perceived information overload? A look at data from the US and New Zealand. *IEEE Transactions on Professional Communication*, *51*(1), 33-49. doi:10.1109/TPC.2007.2000047
- Kotter, J. P. (1990). What leaders really do. *Harvard Business Review*, *68*(3), 103-111. <https://hbr.org/magazine>
- Kugler, M., & Sinha, S. (2020). The impact of COVID-19 and the policy response in India. Retrieved from <https://www.brookings.edu/blog/future-development/2020/07/13/the-impact-of-covid-19-and-the-policy-response-in-india/>
- Ladkin, D. M. (2010). *Rethinking leadership: A new look at old leadership questions*. Cheltenham, England: Edward Elgar.

- Latif, S. (1987). *An integrated logistic support model for major weapon systems of the Pakistan Navy* [Master's thesis]. Naval Postgraduate School, Retrieved from <https://core.ac.uk/download/pdf/36715535.pdf>
- Lavalette, T. (2019). Remembering Australian cricketer Phillip Hughes five years after his tragic death. Retrieved from <https://www.forbes.com/sites/tristanlavalette/2019/11/27/remembering-australian-cricketer-phillip-hughes-five-years-after-his-tragic-death/?sh=1fdfed5e3abc>
- Lazenbatt, A., & Elliott, N. (2005). How to recognise a 'quality' grounded theory research study. *The Australian Journal of Advanced Nursing*, 22(3), 48-53. <http://www.ajan.com.au>
- Leach, A., & Probyn, M. (2021). Why people believe Covid conspiracy theories: Could folklore hold the answer? Retrieved from <https://www.theguardian.com/world/ng-interactive/2021/oct/26/why-people-believe-covid-conspiracy-theories-could-folklore-hold-the-answer>
- Leask, A. (2020). Covid 19 coronavirus: Confusing stay-home message clarified - no, you can't travel to the beach. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12320655
- Leaske, A. (2019). White Island eruption: Defence boss' fears for Whakaari recovery heroes. Retrieved from <https://www.nzherald.co.nz/nz/white-island-eruption-defence-boss-fears-for-whakaari-recovery-heroes/BVWRUWROTL2OOTWR3NJB LAQIKQ/>
- Lee, B., & Saunders, M. (2017). *Conducting case study research: For business and management students*. London, England: Sage.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34-46. doi:10.1111/j.1540-4560.1946.tb02295.x
- Liu, P. (2017). A framework for understanding Chinese leadership: A cultural approach. *International Journal of Leadership in Education*, 20(6), 749-761. doi:10.1080/13603124.2016.1245445
- Lizier, A. (2021). What's theory got to do with it? *Training & Development*, 48(4), 10-13.
- Locke, K. (2001). *Grounded theory in management research*. London, England: Sage.
- Mair, V. (2009). Danger + opportunity ≠ crisis: How a misunderstanding about Chinese characters has led many astray. Retrieved from <http://pinyin.info/chinese/crisis.html>
- Malewska, K. (2018). The profile of an intuitive decision maker and the use of intuition in decision-making practice. *Management*, 22(1), 31-44. doi:10.2478/manment-2018-0003
- Marcus, L. J., McNulty, E., Dorn, B. C., & Goralnick, E. (2014). *Crisis meta-leadership lessons from the Boston marathon bombings response: The ingenuity of swarm intelligence (preliminary findings)*. <https://npli.sph.harvard.edu/resources/>
- Marcus, L. J., McNulty, E., Henderson, J. M., & Dorn, B. C. (2019). *You're it*. New York, NY: Hachette Book Group.

- Matthews, M. R. (2019). *Feng shui: Teaching about science and pseudoscience*. Cham, Switzerland: Springer. doi:10.1007/978-3-030-18822-1
- McAuliffe, W. H. B. (2015). How did abduction get confused with inference to the best explanation? *Transactions of the Charles S. Peirce Society: A Quarterly Journal in American Philosophy*, 51(3), 300-319. doi:10.2979/trancharpeirsoc.51.3.300
- McCabe, T., Peirce, N., Gorczynski, P., & Heron, N. (2021). Narrative review of mental illness in cricket with recommendations for mental health support. *BMJ Open Sport & Exercise Medicine*, 7(1), 1-8. doi:10.1136/bmjsem-2020-000910
- McDonald, P. (2010). *New Zealand mourns Pike River miners*. Retrieved from <https://www.abc.net.au/news/2010-12-02/new-zealand-mourns-pike-river-miners/2359864>
- McIntyre, A. (2008). *Participatory action research*. Thousand Oaks, CA: Sage.
- McLean, I., Oughton, D., Ellis, S., Waklin, B., & Rubin, C. (2012). *Review of the Civil Defence Emergency Management response to the 22 February Christchurch earthquake*. Retrieved from <https://www.civildefence.govt.nz/assets/Uploads/publications/Review-CDEM-Response-22-February-Christchurch-Earthquake.pdf>
- McNoldy, B. (2019). Florence and Michael permanently retired from list of Atlantic hurricane names. Retrieved from <https://www.washingtonpost.com/weather/2019/03/21/florence-michael-permanently-retired-list-atlantic-hurricane-names/>
- McNulty, E. J., Dorn, B. C., Serino, R., Goralnick, E., Grimes, J. O., Flynn, L. B., . . . Marcus, L. J. (2018). Integrating brain science into crisis leadership development. *Journal of Leadership Studies*, 11(4), 7-20. doi:10.1002/jls.21548
- McPhillips, L. E., Chang, H., Chester, M. V., Depietri, Y., McPhearson, T., Friedman, E., . . . Shafiei Shiva, J. (2018). Defining extreme events: A cross-disciplinary review. *Earth's Future*, 6(3), 441-455. doi:10.1002/2017EF000686
- McSweeney, P. (2016). Geonet 'puzzled' by aftershock sequence following the Kaikoura quake. Retrieved from <https://www.stuff.co.nz/national/86813422/geonet-puzzled-by-aftershock-sequence-following-the-kaikoura-quake?cid=facebook.post.86813422>
- Michael, J. (2003). Using the Myers-Briggs type indicator as a tool for leadership development? Apply with caution. *Journal of Leadership & Organizational Studies*, 10(1), 68-81. doi:10.1177/107179190301000106
- Mingzheng, X., & Xinhui, W. (2014). Chinese leadership. *Public Integrity*, 16(2), 165-172. doi:10.2753/PIN1099-9922160204
- Ministry of Defence. (2018). *Strategic Defence Policy Statement*. Retrieved from <https://www.defence.govt.nz/publications/publication/strategic-defence-policy-statement-2018>
- Ministry of Health. (n.d.-a). Highly pathogenic avian influenza. Retrieved from <https://www.health.govt.nz/our-work/diseases-and-conditions/communicable-disease-control-manual/highly-pathogenic-avian-influenza>

- Ministry of Health. (n.d.-b). Middle East respiratory syndrome (MERS). Retrieved from <https://www.health.govt.nz/our-work/diseases-and-conditions/communicable-disease-control-manual/middle-east-respiratory-syndrome-mers>
- More prepared for big one. (2014, February 14). *Dominion Post*, p. A5.
- Morse, J. M. (2009). *Developing grounded theory: The second generation*. Walnut Creek, CA: Left Coast Press.
- Morton, J. (2016). Kaikoura quake: The power of 400 atom bombs. Retrieved from <https://www.nzherald.co.nz/nz/kaikoura-quake-the-power-of-400-atom-bombs/ME3OLLPFK54K46S34UNA2F2HLE/#:~:text=Around%2032%20quadrillion%20joules%20of,or%20detonating%20400%20atomic%20bombs.>
- Morton, J. (2017). Kaikoura earthquake: The most complex ever? Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11818022
- Mowll, R. (2012). *Wellington lifelines group restoration times report*. Retrieved from <https://www.wremo.nz/assets/Publications/Lifeline-Utilities-Restoration-Times.pdf>
- Mulder, M., de Jong, R. D., Koppelaar, L., & Verhage, J. (1986). Power, situation, and leaders' effectiveness: An organizational field study. *Journal of Applied Psychology*, 71(4), 566-570. doi:10.1037/0021-9010.71.4.566
- Myers and Briggs Foundation. (2021). MBTI Basics. Retrieved from <https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/>
- Nalewicki, J. (2016). How an earthquake turned this New Zealand town into the Art Deco capital of the world. Retrieved from <https://www.smithsonianmag.com/travel/earthquake-helped-turn-city-art-deco-capital-world-180958081/>
- Napier, L. (2015). 2007 Rugby World Cup review – and the outcry over a failed All Blacks campaign. Retrieved from <https://www.stuff.co.nz/sport/rugby/70523712/2007-rugby-world-cup-review--and-the-outcry-over-a-failed-all-blacks-campaign>
- National Civil Defence Emergency Management Plan. (2015). Retrieved from <http://www.legislation.govt.nz/regulation/public/2015/0140/latest/DLM6485804.html>
- National Hurricane Center. (2018). *North Atlantic Hurricane Tracking Chart*. Retrieved from https://www.nhc.noaa.gov/tafb_latest/tws_atl_latest.gif
- National Preparedness Leadership Initiative. (2021a). Meta-Leadership. Retrieved from <https://npli.sph.harvard.edu/meta-leadership/meta-leadership-2/>
- National Preparedness Leadership Initiative. (2021b). Resources. Retrieved from <https://npli.sph.harvard.edu/resources-2/featured-publications/>
- New Zealand Defence Force. (2016). *Command and control* (NZDDP-00.1). Wellington, New Zealand: Author.
- New Zealand Defence Force. (2018). *Leadership* (NZDDP-00.6). Wellington, New Zealand: Author.

- New Zealand Government. (2019). Unite against Covid-19. Retrieved from <https://covid19.govt.nz/>
- New Zealand Government. (2020). Unite against COVID-19. Retrieved from <https://covid19.govt.nz/isolation-and-care/financial-support/>
- New Zealand Government. (2021). February 2011 Christchurch earthquake. Retrieved from <https://nzhistory.govt.nz/culture/february-2011-christchurch-earthquake>
- New Zealand Herald. (2020). Budget 2020: Budget at a glance - the big Covid 19 package and how hard has it hit. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12331766
- New Zealand Lifelines Council. (2020). Retrieved from <http://www.nzlifelines.org.nz/>
- New Zealand Ministry of Health. (2021). DRS ABC. Retrieved from <https://www.healthed.govt.nz/resource-table/new-zealand-resuscitation-council-inc-%E2%80%93-drs-abc-level-1-adult-and-child>
- New Zealand Police. (2020). *New Zealand Police Manual*. Wellington, New Zealand.
- New Zealand stock exchange halted by cyber-attack. (2020). Retrieved from <https://www.bbc.com/news/53918580>
- Newell, J., Johnston, D. M., & Beaven, S. (2012). *Population movements following the 2010-2011 Canterbury earthquakes: Summary of research workshops, November 2011 and current evidence* (No. 9780478198997). Lower Hutt, New Zealand: GNS Science. Retrieved from <http://shop.gns.cri.nz/publications/miscellaneous-series/>
- Newman, T. (2020). Comparing COVID-19 with previous pandemics. Retrieved from <https://www.medicalnewstoday.com/articles/comparing-covid-19-with-previous-pandemics#The-Black-Death>
- Newsfeed. (2018). The devastation from these 2 catastrophic 2018 Atlantic hurricanes was so intense, their names will never be used again. Retrieved from <https://www.accuweather.com/en/weather-news/the-devastation-from-these-2-catastrophic-2018-atlantic-hurricanes-was-so-intense-their-names-will-never-be-used-again/70007762>
- Nguyen, J. (2020). Market reactions to COVID-19: Stocks end the week in decline. Retrieved from <https://www.marketplace.org/2020/05/01/how-the-markets-are-reacting-to-covid-19/>
- Niemiec, R. M. (2019). Six functions of character strengths for thriving at times of adversity and opportunity: A theoretical perspective. *Applied Research in Quality of Life*(NA), 551-572. doi:10.1007/s11482-018-9692-2
- Nisbett, R. (2019). *The geography of thought*. London, England: Nicholas Brealey Publishing.
- Nogeste, K. (2008). Dual cycle action research: A professional doctorate case study. *International Journal of Managing Projects in Business*, 1(4), 566-585. doi:10.1108/17538370810906264
- Northouse, P. G. (2019). *Leadership: Theory and practice* (8th ed.). Los Angeles, CA: Sage.

- NZ election: The people left behind in Ardern's 'kind' New Zealand. (2020). Retrieved from <https://www.bbc.com/news/world-asia-54444643>
- NZ swine flu pandemic costly to battle. (2012, November 9). Article. *The Press*, p. A4.
- Oc, B. (2018). Contextual leadership: A systematic review of how contextual factors shape leadership and its outcomes. *The Leadership Quarterly*, 29(1), 218-235. doi:10.1016/j.leaqua.2017.12.004
- Ockhuysen, S. (2020). It's time to do better and cut tall poppy syndrome out of our culture. Retrieved from <https://www.stuff.co.nz/taranaki-daily-news/news/119627156/its-time-to-do-better-and-cut-tall-poppy-syndrome-out-of-our-culture>
- Office of the Auditor General. (2002). Managing the relationship between a local authority's elected members and its chief executive. Retrieved from <https://oag.parliament.nz/2002/chief-execs>
- Office of the Auditor General. (2021). Covid-19 and the risks ahead: The only certainty is uncertainty. Retrieved from <https://oag.parliament.nz/blog/2021/covid-19-uncertainty>
- Oliveira, G. (2020). Coronavirus: Bolsonaro's indifference shocks, but Brazil has some better news. Retrieved from <https://www.stuff.co.nz/dominion-post/comment/121547994/coronavirus-bolsonaros-indifference-shocks-but-brazil-has-some-better-news>
- One News. (2020). Lockdown Heroes. Retrieved from <https://www.tvnz.co.nz/one-news/new-zealand/lockdown-heroes>
- Oranga Tamariki. (n.d.). Research Articles. Retrieved from <https://www.orangatamariki.govt.nz/about-us/research/our-research/>
- Osborn, R. N., Hunt, J. G., & Jauch, L. R. (2002). Toward a contextual theory of leadership. *The Leadership Quarterly*, 13, 797-837. doi:10.1016/S1048-9843(02)00154-6
- Owen, C., Scott, C., Adams, R., & Parsons, D. (2015). Leadership in crisis: Developing beyond command and control. *The Australian Journal of Emergency Management*, 30(3), 15-19. https://esf.com.au/wp-content/uploads/2020/10/Beyond-command-and-control-leadership-program.AJEM_.pdf
- Parker, M., & Steenkamp, D. (2012). The economic impact of the Canterbury earthquakes. *The Reserve Bank of New Zealand Bulletin*, 75(3), 13-25. <https://www.rbnz.govt.nz/research-and-publications/reserve-bank-bulletin>
- Paton, D., Johal, S., & Johnston, D. (2014). Community recovery following earthquake disasters. *Encyclopedia of earthquake engineering*, 1-8. doi:10.1007/978-3-642-36197-5_347-1
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Los Angeles, CA: Sage.
- Pendleton, D., & Furnham, A. (2016). *Leadership: All you need to know* (2nd ed.). Basingstoke, England: Palgrave Macmillan.

- Perraudin, F. (2020). 'It will cost lives': Experts decry UK government's mixed Covid-19 messaging. Retrieved from <https://www.theguardian.com/world/2020/may/11/it-will-cost-lives-experts-decry-uk-governments-mixed-covid-19-messaging>
- Perrow, C. (1994). The limits of safety: The enhancements of a theory of accidents. *Journal of Contingencies & Crisis Management*, 2(4), 212-220. doi:10.1111/j.1468-5973.1994.tb00046.x
- Porter, L. W., & McLaughlin, G. B. (2006). Leadership and the organizational context: Like the weather? *The Leadership Quarterly*, 17, 559-576. doi:10.1016/j.leaqua.2006.10.002
- Radio New Zealand. (2020). Coronavirus: Two more NZ cruise ship passengers test positive. Retrieved from www.rnz.co.nz/news/national/409919/coronavirus-two-more-nz-cruise-ship-passengers-test-positive
- Radio New Zealand. (2021). Family and sexual violence government venture: Auditor-General finds shortcomings. Retrieved from www.rnz.co.nz/news/national/444279/family-and-sexual-violence-government-venture-auditor-general-finds-shortcomings
- Rapp, C. (2010). Aristotle's rhetoric. *The Stanford Encyclopedia of Philosophy* (2nd ed.). Retrieved from <https://plato.stanford.edu/archives/spr2010/entries/aristotle-rhetoric/>
- Raymond, S. (2019). *Spelling rules, riddles and remedies: Advice and activities to enhance spelling achievement for all* (2nd ed.). Abingdon-on-Thames, England: Routledge.
- Reja, M. (2021). Trump's 'Chinese Virus' tweet helped lead to rise in racist anti-Asian Twitter content: Study. Retrieved from <https://abcnews.go.com/Health/trumps-chinese-virus-tweet-helped-lead-rise-racist/story?id=76530148>
- Rittel, H., & Webber, M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4(2), 155-169. <https://www.springer.com/political+science/journal/11077>
- Roche, B., & Simpson, H. (2020). *Report of advisory committee to oversee the implementation of the New Zealand COVID-19 surveillance plan and testing strategy*. Retrieved from https://covid19.govt.nz/assets/Review-of-Surveillance-Plan-and-Testing-Strategy/Final_Report-of-Advisory-Committee-to-Oversee-the-Implementation-of-the-....pdf
- Rodríguez, H., Donner, W., & Trainor, J. E. (2018). *Handbook of disaster research* (2nd ed.). Cham, Switzerland: Springer. doi:10.1007/978-3-319-63254-4
- Roos, J. (2020). How plagues change the world. *New Statesman*, 149(5520), 24-28.
- Roosevelt, T., & O'Toole, P. (2012). *In the words of Theodore Roosevelt: Quotations from the man in the arena*. Ithaca, NY: Cornell University Press.
- Roquebert, J. A., Phillips, R. L., & Westfall, P. A. (1996). Markets vs. management: What 'drives' profitability? *Strategic Management Journal*, 17(8), 653-664. doi:10.1002/(SICI)1097-0266(199610)17:8<653::AID-SMJ840>3.0.CO;2-O
- Roy, E. (2020). New Zealand health minister David Clark quits over handling of Covid-19 outbreak. Retrieved from <https://www.theguardian.com/world/2020/jul/02/new-zealand-health-minister-david-clark-quits-over-handling-of-covid-19-outbreak>

- Royal Australian Navy. (n.d.). *Integrated Logistic Support (ABR 5794)*. Canberra, Australia: Author.
- Russell, D. (2020). *Wellington CDEM group COVID-19 after action review*. Wellington Region Emergency Management Office.
- Rutherford, H. (2017). Statistics House set to be demolished due to earthquake damage. Retrieved from <https://www.stuff.co.nz/business/97725902/statistics-house-set-to-be-demolished-due-to-earthquake-damage>
- Rutherford, H. (2020). Covid-19 coronavirus: Government releases details of 'shovel ready' projects. Retrieved from <https://www.nzherald.co.nz/business/covid-19-coronavirus-government-releases-details-of-shovel-ready-projects/2Z552FKXZVOKN3ITZHQIVSKUFE/>
- Sam Cane: "Brutal" All Black fans don't know as much about rugby as they think. (2020). Retrieved from <https://www.stuff.co.nz/sport/rugby/all-blacks/300161240/sam-cane-brutal-all-blacks-fans-dont-know-as-much-about-rugby-as-they-think>
- Sanders, P., & Grint, K. (2018). The interplay of the Dirty Hands of British area bombing and the wicked problem of defeating Nazi Germany in the Second World War – A lesson in leadership ethics. *Leadership, 15*(3), 1-25. doi:10.1177/1742715017751532
- Sarkodie, S. A., & Owusu, P. A. (2021). Global assessment of environment, health and economic impact of the novel coronavirus (COVID-19). *Environment, development and sustainability, 23*(4), 5005-5015. doi:10.1007/s10668-020-00801-2
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Harlow, England: Pearson Education.
- Schneider, S. M., Hamilton, G. C., Moyer, P., & Stapczynski, J. S. (1998). Definition of emergency medicine. *Academic Emergency Medicine, 5*(4), 348-351. doi:10.1111/j.1553-2712.1998.tb02720.x
- Schoemaker, P. J. H. (2002). *Profiting from uncertainty: Strategies for succeeding no matter what the future brings*. New York, NY: The Free Press.
- Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (1998). Communication, organization, and crisis. *Annals of the International Communication Association, 21*(1), 231-276. doi:10.1080/23808985.1998.11678952
- Seville, E. (2016). *Resilient organizations: How to survive, thrive and create opportunities through crisis and change*. London, England: Kogan Page.
- Sibony, O. (2019). *You're about to make a terrible mistake: How biases distort decision-making - and what you can do to fight them*. (K. Deimling, Trans.). Rugby, England: Swift Press.
- Slaven, G., & Flin, R. (1997). Selecting managers for a hazardous environment. *Disaster Prevention & Management, 6*(5), 336-342. doi:10.1108/09653569710193763
- Smith, M. J., Arnold, R., & Thelwell, R. C. (2018). "There's no place to hide": Exploring the stressors encountered by elite cricket captains. *Journal of Applied Sport Psychology, 30*(2), 150-170. doi:10.1080/10413200.2017.1349845

- Snowden, D. (2005). Strategy in the context of uncertainty. *Handbook of Business Strategy*, 6(1), 47-54. doi:10.1108/08944310510556955
- Snowden, D., & Boone, M. E. (2007). A leader's framework for decision making. *Harvard Business Review*, 85(11), 68-76. <https://hbr.org/magazine>
- Socialbakers. (2020). Facebook stats in New Zealand - Governmental. Retrieved from <https://www.socialbakers.com/statistics/facebook/pages/total/new-zealand/society/governmental/page-1-2>
- Spector, B. A. (2016). Carlyle, Freud, and the Great Man Theory more fully considered. *Leadership*, 12(2), 250-260. doi:10.1177/1742715015571392
- Stan Lee. (1963). *Iron Man*. New York, NY: Marvel Comics.
- Statistics New Zealand. (2020). Population. Retrieved from <https://www.stats.govt.nz/topics/population>
- Stiles, J. (2003). A philosophical justification for a realist approach to strategic alliance research. *Qualitative Market Research: An International Journal*, 6(4), 263-271. doi:10.1108/13522750310495346
- Storr, J. (2009). *The human face of war*. London, England: Continuum.
- Stuff. (2020). Coronavirus: Thank you to our essential workers. Retrieved from <https://www.stuff.co.nz/dominion-post/wellington-top-stories/120791996/coronavirus-thank-you-to-our-essential-workers>
- Taleb, N. (2007). *The black swan: The impact of the highly improbable*. New York, NY: Random House.
- Taleb, N. (2012). *Antifragile: Things that gain from disorder*. New York, NY: Random House.
- The International Security Sector Advisory Team. (2012). SSR in a nutshell: Manual for introductory training on security sector reform. Retrieved from <https://issat.dcaf.ch/download/2970/25352/ISSAT%20LEVEL%201%20TRAINING%20MANUAL%20-%20SSR%20IN%20A%20NUTSHELL%20-%205.3.pdf>
- The Treasury. (2019). Budget 2019: The wellbeing budget. Retrieved from <https://budget.govt.nz/budget/2019/wellbeing/approach/whats-next.htm>
- Todd Muller quits as National Party leader for health reasons. (2020). Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12347793
- Trampolines are blowing around Wellington, and Civil Defence is hopping mad. (2017). Retrieved from <https://www.stuff.co.nz/national/94704023/trampolines-are-blowing-around-wellington-and-the-council-is-hopping-mad>
- Tunncliffe, B. (2020). Mind games: How former Black Caps captain John Wright was ahead of his time. Retrieved from <https://www.stuff.co.nz/sport/cricket/black-caps/300109876/mind-games-how-former-black-caps-captain-john-wright-was-ahead-of-his-time>

- United Nations conference on trade and development. (2021). Global economy could lose over \$4 trillion due to COVID-19 impact on tourism. Retrieved from <https://unctad.org/news/global-economy-could-lose-over-4-trillion-due-covid-19-impact-tourism>
- US Army. (2005). *The red team handbook*. Ft Leavenworth, KS: Training and Doctrine Command.
- US Army. (2019). *ADP 6-0: Mission command*. Washington DC: US Army. Retrieved from https://fas.org/irp/doddir/army/adp6_0.pdf
- van Royen, R. (2021). Rejuvenated Sophie Devine to retain White Ferns captaincy after break. Retrieved from <https://www.stuff.co.nz/sport/cricket/300327121/rejuvenated-sophie-devine-to-retain-white-ferns-captaincy-after-break>
- Van Wart, M., & Kapucu, N. (2011). Crisis management competencies. *Public Management Review*, 13(4), 489-511. doi:10.1080/14719037.2010.525034
- Vroom, V. H., & Jaago, A. G. (2007). The role of the situation in leadership. *American Psychologist*, 62(1), 17-24. doi:10.1037/0003-066X.62.1.17
- Waite, M. (2008). *Fire service leadership theories and practices*. Sudbury, MA: Jones and Bartlett.
- Wang, J. (2008). *Leveraging Chinese culture for effective organizational leadership: The China case*. Retrieved from <https://eric.ed.gov/?id=ED501639>
- Warden, J. A. (1995). The enemy as a system. *Air Power*, 9(1), 44-55. https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-09_Issue-1-Se/1995_Vol9_No1.pdf
- Wellington's CentrePort Posts \$35.7 million 1H Loss after Kaikoura Earthquake. (2017). Retrieved from <http://www.sharechat.co.nz/article/a665f856/wellington-s-centreport-posts-35-7-million-1h-loss-after-kaikoura-earthquake.html>
- Wellington Region Emergency Management Office. (2019). *Group plan 2019-2024*. Retrieved from <https://wremo.nz/assets/Publications/Group-Plan-2019-2024.pdf>
- Wellingtonian of the Year. (2021). Retrieved from <https://wellys.co.nz/>
- Wiles, S. (2020). Siouxsie Wiles: On Covid-19, we have to build the plane as we fly it. Retrieved from <https://thespinoff.co.nz/covid-19/05-04-2020/siouxsie-wiles-on-covid-19-we-have-to-build-the-plane-as-we-fly-it/>
- Williams, K. (2020). Asteron Centre is safe, insists developer as IRD shifts staff to other offices. Retrieved from <https://www.stuff.co.nz/national/nz-earthquake/86833394/earthquake-asteron-centre-evacuation-displaces-more-than-2000-workers>
- Wilson, C. (2019). Analysis: How the All Blacks could outsmart the rush defence. Retrieved from <https://www.rugbypass.com/news/analysis-how-the-all-blacks-could-outsmart-the-rush-defence/>
- Wilson, S. (2020). Pandemic leadership: Lessons from New Zealand's approach to COVID-19. *Leadership*, 0(0), 1-15. doi:10.1177/1742715020929151

- Winter, C. (2017). Insurance claims total \$1.84 billion for Kaikoura earthquake. Retrieved from <https://www.stuff.co.nz/business/93861720/insurance-claims-total-184-billion-for-kaikoura-earthquake>
- Wood, A., Noy, I., & Parker, M. (2016). The Canterbury rebuild five years on from the Christchurch earthquake. *The Reserve Bank of New Zealand Bulletin*, 79(3), 3-16. <http://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Bulletins/2016/2016feb79-3.pdf>
- Wood, M. J. (2017). Conspiracy suspicions as a proxy for beliefs in conspiracy theories: Implications for theory and measurement. *British Journal of Psychology*, 108(3), 507-527. doi:10.1111/bjop.12231
- Woolmer, B., Noakes, T., & Moffett, H. (2008). *Bob Wollmer's art and science of cricket*. Cape Town, South Africa: Random House Struik.
- Wooten, L. P., & James, E. H. (2008). Linking crisis management and leadership competencies: The role of human resource development. *Advances in Developing Human Resources*, 10(3), 352-379. doi:10.1177/1523422308316450
- Work Health and Safety Act, No. 137. (2011). Retrieved from <https://www.legislation.gov.au/Details/C2017C00305>
- Worksafe. (n.d.). Our enforcement approach during the COVID-19 pandemic. Retrieved from <https://www.worksafe.govt.nz/managing-health-and-safety/novel-coronavirus-covid/our-enforcement-approach-during-the-covid-19-pandemic/>
- Worldometer. (2021). Covid-19 coronavirus pandemic. Retrieved from <https://www.worldometers.info/coronavirus/>
- WREMO. (2017). *Kaikoura Earthquake Event - November 2016*. Retrieved from https://www.gw.govt.nz/assets/council-reports/Report_PDFs/2017.89.pdf
- WREMO. (2021). Community Emergency Hubs. Retrieved from <https://www.wremo.nz/about-us/initiatives/hubs/>
- WREMO Quarterly Report. (2015). Retrieved from <https://www.kapiticoast.govt.nz/media/24244/wremo-quarterly-report-1-october-31-december-2015-with-note.pdf>
- WREMOnz. (2020). Retrieved from <https://www.facebook.com/WREMOnz/>
- Yardley, M. (2016). Mike Yardley: Response to north Canterbury earthquake 'beyond extraordinary'. Retrieved from <https://www.stuff.co.nz/the-press/opinion/86689044/mike-yardley-response-to-north-canterbury-earthquake-beyond-extraordinary>
- Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Los Angeles, CA: Sage.
- Zahavi, D. (2018). *Husserl's legacy: Phenomenology, metaphysics, and transcendental philosophy*. Oxford, England: Oxford University Press.

- Zaleznik, A. (1965). *Psychological aspects of executive leadership*. Paper presented at the Academy of Management. Proceeding retrieved from <http://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=110&sid=8ac9c1dd-d6a6-4b1d-9655-1d0e044b33d5%40sessionmgr4008>
- Zaleznik, A. (2004). Managers and leaders are they different? *Harvard Business Review*, 82(1), 74-83. <https://hbr.org/magazine>
- Zaroli, J. (2020). Stocks 2020: A stunning crash, then a record-setting boom created centibillionaires. Retrieved from <https://www.npr.org/2020/12/31/952267894/stocks-2020-a-stunning-crash-then-a-record-setting-boom-created-centibillionaire>
- Zeeman, E. C. (1976). Catastrophe Theory. *Scientific American*, 65-83.
- Zhang, X., & Ghorbani, A. A. (2020). An overview of online fake news: Characterization, detection, and discussion. *Information Processing and Management*, 57(2), 2-26. doi:10.1016/j.ipm.2019.03.004

Appendices

- A. Primary research applications.
- B. Alternate Research Strategies
- C. Profile of those people interviewed.
- D. Indicative questions asked of those being interviewed.
- E. Research information and approval sheet.
- F. Themes coded for analysis.

Appendix A: Primary research applications

Approved Human ethics research applications.

Date	Application ID	Assessed as:	
7 Aug 2018	4000019951	Low risk	Introductory level interviews with practitioners to refine the scope for an effective literature review and identify key leadership factors to be explored further, any relevant case studies, capability development gaps, and opportunities for further research of value on the topic, plus build relationships between researchers and practitioners.
4 Dec 2018	4000020403	Low risk	As above, an application sought to extend the interview timeframes.
9 Sep 2019	4000021718	Low risk	Interviews with disaster participants to identify leadership capabilities and systems necessary to deliver more successful outcomes during extreme contexts, examine how these capabilities differ from leadership during BAU and investigate how these unfortunate circumstances can be leveraged to produce thriving outcomes.
25 Mar 2020	4000022391	Low risk	To observe actions and behaviour of leadership and participants associated with the Covid 19 pandemic, plus gather data and other material relevant to the pandemic and any actions arising.

Appendix B: Alternate Research Strategies

Notwithstanding the decision to use case study as the primary research strategy, other strategies were considered relevant to the research topic, albeit in a reduced capacity. These were:

Grounded Theory (GT)

Grounded theory was initially conceived by Glaser and Strauss (1967) to allow researchers to conduct inductive analysis or devise theory from data. “With its theoretical orientation based in sociology: GT strives to understand and explain human behaviour through inductive reasoning processes” (Lazenbatt & Elliott, 2005). It does this through a five-step process. While it has several advantages as a method of inquiry (being intuitive, promoting creativity, being systematic, and facilitating data granularity), its utility is also limited. It is an exhaustive process, has a high potential for methodological error, and limits generalisability (El Hussein, Hirst, Salyers, & Osuji, 2014).

Action Research

Action research is used in situations where the intent is to advance knowledge and provide advice to practitioners (Locke, 2001), not unlike the intent in this instance. Building on the foundations laid by Lewin (1946), it has spawned several variants, one of the more notable being Participatory Action Research (PAR), a methodology used to gather input from people representing the entities covered by the research area. PAR is a recursive approach used to promote action and generate change. It involves collaborative interaction with stakeholders through a multi-stage workflow of planning, exploration, acting/observing, and reflecting, taking raw concepts and gradually refining them into a more elegant form, thereby providing greater comprehension and clarity (McIntyre, 2008).

An even more powerful version and one more relevant to this particular research is dual cycle action research, a methodology designed to ensure equal and concurrent focus on both the research and problem-solving components of the study (Nogeste, 2008). While this particular methodology had merit and accepting the overlap with Case Study as a strategy, it was considered a better option to approach the research sequentially, advance the scholarship component, and then separately package the outcomes to assist practitioners.

Heuristic Inquiry

With origins in humanistic philosophy, this research examines both the author's experience and others who have also experienced the subject phenomenon intensely (Patton, 2015). While this approach had relevance, it was but one component of the overall research, and this experiential factor was still able to be covered within a Case Study strategy.

Phenomenology

Phenomenology is a more controversial approach that studies consciousness and experience from a subjective perspective (i.e., from the first-person point of view). Controversial in that it appears not to have a standard approach. The original concept by Edmund Husserl (1941) has been developed further by several followers, often in contexts at variance from the original intent (Zahavi, 2018). The American (as distinct from traditional European approaches to phenomenology) has this research focuses on “describing participants’ lived experience within the context of culture rather than searching for the universal or unchanging meaning of it” (Caelli, 2000, p. 367). While this strategy has appeal, its advantages can also be captured within a case study strategy, where the impact of context was considered more relevant.

Systems Theory

With interdisciplinary roots, this research framework examines how and why a system functions, explores related boundaries and interrelationships, and how these influence the system (Patton,

2015). Given the intended systems approach to leadership, this methodology also had relevance; however, a Case Study strategy was considered a better option for understanding the linkages between leadership and context.

Complexity Theory

This theory studies how the dynamics of complex adaptive systems may be captured, illuminated, and understood (Patton, 2015). This strategy could be utilised to capture many of the nuances raised on page 22 by Grint (2008) and page 24 by Snowden (2005), along with the work initiated by Tarrant and Parsons (page 28). However, notwithstanding any desire to capture the complexity, this too could be accommodated within a Case Study strategy.

Appendix C: Profile of those people interviewed.

Interview participants were current or previous holders of the following roles:

- a. Seventeen Controllers/Commanders/Executives (or their deputies) who had led response operations for the following – Police, Defence, Fire and Emergency, Health, Emergency Management, All-of-Government strategy and coordination, and a Foreign Embassy: at either a national (seven people), regional (five people) or local level (five people).
- b. Chief Executives (or deputies) for five central government ministries/agencies, three city councils, and two businesses.
- c. Five people with experience leading or working in a combat/conflict zone.
- d. Six members of the NZ public (Pakeha, Māori, Asian, Pasifika, Muslim).
- e. One politician (a City Mayor).
- f. The Captain of an NZ sporting team during a World Cup.
- g. A New Zealand representative player in another sport.
- h. The Chair of a major provincial sporting association.
- i. Four people with dedicated roles responsible for developing leaders.
- j. Seven people with Military Command experience.
- k. One person with a significant national gallantry award arising from leadership actions in a conflict arena.
- l. A senior officer in the NZ Special Air Service (SAS).
- m. A foreign Ambassador to NZ.
- n. An NZ Ambassador to a foreign country.
- o. Eight people who had worked as part of a Headquarters or Emergency Coordination staff.
- p. A city Recovery Manager.

- q. Two people with media roles – one as part of a traditional media organisation and the other with a substantial social media following.
- r. Two foreign nationals who had led (aspects of) civil response operations overseas,
- s. One person from the academic sector.
- t. Of the thirty people, all were over the age of twenty, twelve were women, and 10% identified as Māori.

Appendix D: Indicative questions asked of those being interviewed.

Questions tailored to ask those with leadership experience during extreme contexts. Questions were then modified to draw on the perspectives of other extreme content participants.

1. Explain Leadership in extreme contexts and the nature and purpose of the research. What was your role during Kaikōura and Covid 19? What other events have you led/supported?
2. From your perspective, tell me a little about the key issues/challenges related to each event across time – (pre, during, and post-event)
3. Draw a picture describing the key players/concepts during each.
4. What were the interactions/tensions in their relationships?
5. What were the things that leaders did to improve the context?
6. What were the context factors present that made things worse? Compare with other events.
7. Were there any organisations in society that should have been used more during the events?
8. What are people looking for in a controller during such events?
9. How does that change as the event transitions into recovery?
10. What are people looking for in leadership pre-event?
11. What do you see as the key capabilities/competencies of the operational leader?
12. How would these capabilities differ from extreme contexts to BAU? Explain the differences?
13. Provide the guide sheet:
14. Which categories do you expect a response leader to use during an event (maybe more than one – pre, during, post)?
15. Provide a synopsis of your development that prepared you for leading/working in this context? This could be formal or informal.

16. Tell me some of the most profound leadership lessons you have acquired from working in this arena – maybe the sort of thing you won't see in a textbook?
17. What is the key difference between command and leadership (in an extreme context)?
18. What did you find during the situation that surprised you – i.e., nobody told you about it, or it was well beyond what you expected?
19. Tell me, having experienced this extreme context, what you would have liked to have known more about or have gained experience in, which might have enabled you to have achieved a better outcome?
20. When the going gets tough, what are the knowledge/experiences/attributes you dig down to, to get you through?
21. How do people leverage these unfortunate situations to thrive rather than merely survive?
22. Are there any other questions I should have asked?
23. Do you have any other information on this or related matters that you would like to share?

Appendix E: Research Information and Approval Sheet



Massey University: Joint Centre for Disaster Research
Centre for Defence and Security Studies,
PO Box 756, Wellington 6140

Challenges and Opportunities for Leadership in Extreme Contexts

Interview Information Sheet

Introduction

The purpose of this research is to better understand the challenges and opportunities for leadership during extreme contexts. While the research is aimed at New Zealand's security sector, it is intended to look wider afield to identify transferable skills/concepts which may prove of value in these situations. The interviews will be undertaken by Bruce Pepperell, as part of his PhD research being conducted through the Joint Centre for Disaster Research and Centre for Defence and Security Studies.

The interview aims are to examine the following:

- a. What are the leadership capabilities and systems necessary to deliver more successful outcomes during situations of extreme context?
- b. How does leadership in these circumstances differ from leadership during business-as-usual conditions?
- c. Lastly, through effective leadership, can we leverage these unfortunate events to thrive rather than merely survive?

While over the years, much has been written on leadership, there is a much smaller subset of articles on leadership in extreme contexts, with the majority of these focusing on the event rather than leadership itself. Where leadership has been the focus, the spotlight has shone on the actions and capabilities of one person - the leader. Leadership, however, is not simply one person, it is a chain or network of people, delivering outcomes with the support of others,

guided by a governance structure, contextualised by the environment, and operating on a continuum across time (before, during, and after an event).

The findings from the research will be used to better understand how to select and develop effective leaders during extreme events and highlight those environmental factors which lead to successful response and recovery outcomes.

Participant Recruitment and Involvement

This research will be conducted via semi-structured, qualitative interviews conducted with participants at times, dates, and venues previously agreed. The purpose and benefits of participating in the research will be introduced with each participant prior to the interview. The interviews will be conducted one-to-one and should take no more than an hour. While there will be some set questions, the session will not necessarily follow a rigid script and structure. Feel free to discuss anything you think is pertinent as your train of thought allows.

It is not compulsory to answer every question - Should you encounter a question that you are not comfortable answering, simply mention that you would prefer not to answer it, and we can move on. Interviewees will not be named however, the role and the context associated with their answers may be. It is important to understand that the purpose of the interviews is to examine the issues present in the leadership system operating in extreme contexts. It is not to pass judgement on the actions of any individuals. Subject to agreement, the interviews will be digitally recorded, and a summary will be produced in written form. This written summary will be forwarded to the interviewee. The source data will be held by Massey University to support any requirement for data validation. Key findings will be included in a thesis to be submitted to the university (at this stage, late 2021).

Participant's Rights

Participants are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any question.
- withdraw from the study at any time before the results are sent for publication, and
- ask any questions about the study at any time during participation.

Project Team

For further information about the project, please contact: Bruce Pepperell, Joint Centre for Disaster Research and Centre for Defence and Security Studies, Massey University, PO Box 756, Wellington 6140, phone +6422 5155 688, or b.pepperell@massey.ac.nz

Project Ethics Evaluation

This research has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director (Research Ethics), email humanethics@massey.ac.nz.

Thank you very much for your time.



**Massey University P.O. Box 756,
Wellington 6140,
New Zealand:**

**Joint Centre for Disaster Research, School of Psychology,
Centre for Defence and Security Studies**

Challenges and Opportunities for Leadership in Extreme Contexts

INTERVIEW PARTICIPANT CONSENT FORM

I have read the Information Sheet and have had the details of the study explained to me. Any questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the interview (sound) being recorded.

I agree to participate in this study under the conditions set out in the Information Sheet.

Full Name – printed.....

Organisation Role

Signature Date .../.../.....

Appendix F: Themes coded for analysis.

Theme codings were ascribed based on several factors, including content supporting individual research questions, extreme context scenarios, and those factors for which more critical examination was required.

No formal thresholds were established to define those factors comprising a theme. Leadership is not something that is easily reduced to the form of a numerical equation. The fact that one group of people thought X and another group thought Y was less relevant than the cumulative impact of both X and Y. Therefore, the contents of both needed to be factored into any resulting approach.

Themes comprised:

1. Context
 - a. General
 - b. Christchurch counter-terrorism operations
 - c. Christchurch earthquakes
 - d. Conflict and combat
 - e. Kaikōura
 - f. Other events
 - g. Sport
2. People
3. Engagement with people
4. Security Sector
5. Purpose
6. Thriving
7. Leadership system
 - a. Intra/inter-system relationships and tensions.

8. Exercising authority
 - a. General
 - b. Leadership
 - c. Command
 - d. Management
 - e. Governance
9. Operational leadership capabilities
 - a. General
 - b. Foundation qualities under pressure
 - c. Training and development
 - d. Extreme context v BAU
 - e. Post-event
 - f. Pre-Event
 - g. Operational surprises
10. Leadership exemplars
11. Emerging issues that challenge scholarship