

# Exploring the Dynamics of New Zealand's Talent Flow

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Recruiting talented workers has become a global international concern, yet the diversity of human motives driving labour mobility has yet to be captured in any psychometric measure. By means of an internet survey administered through 32 professional associations based in New Zealand, 2201 highly skilled but expatriated New Zealanders completed a 26-item measure of issues pushing them towards staying overseas versus returning to New Zealand. Principal components analysis was used to explore the structure of this instrument, which suggested five motivational components: Lifestyle and Whanau/Family (primarily, for this sample, 'pull' components); and Career; Cultural; and Economic (primarily 'push' components). Discussion focuses on the content validity of this instrument with respect to pools of talent not originally from New Zealand; on its contribution to theories of career mobility; and on its increasing relevance for recruiters and policy-makers within organisations, government ministries, and global development agencies like OECD, which has recently called specifically for the construction of standardised instrument sets to measure global talent flow.

As the market for jobs becomes progressively global, issues surrounding migration have become increasingly important to organisations. The shift, from locally to globally oriented recruitment, has intensified. The facilitating influences include advances in global networking technology and related increases in job opportunities; air travel becoming increasingly accessible; and the increase in boundaryless careers, both between organisations (Arthur & Rousseau, 1996) and more recently between geographical locations (Donohue, 2003). But whatever the cause or causes of the internationalisation of labour markets, the operating environment of organisations is today characterised by a scramble to recruit and retain human talent, and so become employers of international choice (Lavigna & Hays,

2004). Under such conditions, having the capacity to understand and measure the dynamics of international labour becomes crucial to strategic human resource planning, recruitment, and selection (Pillay & Kramers, 2003). The evidence reported in this paper represents a first, exploratory step toward developing a psychological measure of the motivations underlying global migration. It is hoped that this will eventually assist academics and governmental agencies to understand migration and to formulate appropriate policies, and enable organisations to better communicate with potential recruits.

## *A Local Concern*

In New Zealand, as in other countries, the notion of *brain drain* has received much attention in the mass media,

and has provoked fears that New Zealand is permanently losing a large amount of its intellectual capital to larger and more affluent economies like the UK, the USA, and Australia (Carr, Inkson, & Thorn, in press). This popularised view in the media presents a narrow focus on the reality of the complexities surrounding the movement of talent around the global arena (Inkson, Carr, Edwards, Thorn, Jackson, Hooks, & Allfree, 2004). From a wider perspective, country X's loss is country Y's gain, and the process of losing talent also involves an associated potential for regaining it (Neave, 2004). Moreover, talent that leaves a country may appreciate abroad before returning to the original country (Inkson & Myers, 2003). We therefore wish to move beyond the 'brain drain' concept by promoting a more dynamic concept of labour mobility and migration – i.e., *talent flow*, in which talent regularly and fluidly moves and changes from location A to location B and vice versa, depending on the net attraction towards A or towards B at a particular time.

## *Conceptual Analysis*

By "talent" we refer, in this article, to highly skilled, educated, and/or experienced individuals. Talent flow appears to be composed of at least three major components that are not restricted to the outflow of talent in *brain drain* (Leung, Lau, & Kwong, 2004). Talent flow also includes *brain gain*, which involves the immigration of talent from overseas; and a negative consequence of this *talent waste* is due to locally

held prejudices (Carr & Coates, 2003). A positive corollary to this, however, is seen where there is an appropriate accord between talent, the position held, and the surrounding environment. Promoting fit like this, we propose, first entails appreciating and understanding what kinds of issues will motivate a potential migrant to move.

### A Motivational Perspective

Talent flow, as a holistic concept, raises the broad question of why talented people move around the globe. Knowing the reasons for this flow of talent may assist policy makers and decision-makers, at both organisational and civic levels, to plan courses of action that meet the interests of both migrating individuals and host organisations and societies (Adir, 1995; Rosenblatt & Sheaffer, 2001). Alignments like this have the potential to transform brain drain (and potential waste) into gain, by attracting expatriated talent home. The current project focuses on measuring 'gravitational' issues, as they affect skilled professionals currently expatriated from New Zealand.

### Factors Motivating Emigration

The models of emigration currently available in the literature tend to be macro-economic in focus (OECD, 2002; Cheng & Yang, 1998; Russell, 1995), or, to a lesser extent, economic and political (e.g., Lam, 2002). Psychological models are relatively scarce (Abrams, Hinkle, & Tomlinson, 1999). Recently however, we have identified from the literature, and articulated a broad range of potentially motivating issues, at the psychological level (Carr, et al., 2004; Inkson et al., 2004). The literature reviewed in these papers is diverse and eclectic – ranging from human geography and economics through to tourism and business. Not surprisingly perhaps, each of these literatures tends to champion its own type of variable, often at the expense of the others (for a rare exception empirically supporting four of the five factors identified below, see Zweig, 1997). Yet, assuming that each of these perspectives is at least partially valid, migration decisions must be governed by multiple considerations. The key point of our previous reviews was therefore to derive a tentative conceptual synthesis of potential reasons for migration,

which can then serve as a platform for exploratory empirical testing.

Based on our review of the multidisciplinary migration literature, Carr et al. (2004) suggest that people may be motivated to migrate because of five key reasons. *Economic* factors for migration include the promise of greater income and better economic opportunities. *Political* factors for migration include confidence in the current political regime, and broad political persuasion. *Career* factors incorporate vocational opportunities that may attract individuals to overseas destinations. *Cultural* factors influence individuals to migrate to countries that are culturally similar, or, alternatively, provide better opportunities for encountering cultural diversity. Finally discussed in Carr et al. (2004) are *family* factors: because people hold strong connections with their families, those connections will influence migration decisions (Yeniceri, 1998).

### Expectation

To the best of our knowledge, the taxonomy of motivational domains above has not yet been tested empirically as a gestalt, through a substantive sample of emigrants. Based on the review however, we expected to find empirical support for a 5-dimensional pattern of behavioural motivators of the decision by expatriate New Zealanders to either remain expatriated or to return to their country-of-origin.

### Method

#### Participants

Participants in this study were recruited through 32 professional associations, expatriate groups, and alumni organisations, based in New Zealand. Under conditions of informed consent and confidentiality, these organisations agreed to contact their expatriate members with an option to participate in the study – an option that included forwarding the invitation to others so qualified who might also wish to take part in the study. Participation was however restricted to professionals originating from and being educated in New Zealand, who were living overseas at the time the study was conducted. This broad sample frame enabled us to recruit a total of 2,208

professional New Zealand expatriates. With our psychometric focus we were not explicitly concerned with return rates and probability sampling, however, demographic data pertaining to the sample we obtained is presented in Tables 1 and 2.

### Materials

**Item content.** Selection of items was guided by broad-level categories identified in the review by Carr et al. (2004). This review spans both migration globally and migration with respect to the 'locality' of New Zealand. Examples of these content domains include relatively 'global' considerations like economic pressures, as well as inherently 'local' concerns like sense of identity and ethnic mix. A prime example in this study is the item, "Tall poppy syndrome". This is a mechanism popularly believed to be common in New Zealand, whereby high performing individuals may be pulled or pushed down by the averagely performing majority (Rundle & Carr, this issue). Thus, the provisional

Table 1. Gender, Age, and Ethnicity of the Total Sample

N = 2201	Frequency	%
<b>Gender</b>		
Male	1346	61.2
Female	795	36.1
Non-Responders	60	2.7
<b>Age</b>		
20-24	28	1.3
25-29	367	16.7
30-34	617	28.0
35-39	401	18.2
40-49	464	21.1
50-59	233	10.6
60+	81	3.7
Non-Responders	10	0.5
<b>Ethnicity</b>		
NZ European	1864	84.7
Maori	28	1.3
Pacific Islanders	5	0.2
S. African, Aus., Other	24	1.1
Asian	127	5.8
More than one NZ identity	53	2.4
New Zealander	64	2.9
North American	5	0.2
European	8	0.4
British and Irish	6	0.3
Non-Responders	17	0.8

Table 2. Highest Qualification, Current Occupation, and Continent of Residence for the Total Sample

N = 2201	Frequency	%
<b>Highest Qualification</b>		
Doctorate	106	4.8
Master's, MBA	288	13.1
Post Graduate Certificate or Diploma	843	38.3
Bachelor's Degree	805	36.6
Other Certificates	81	3.7
Secondary School	39	1.8
Non-Responders	39	1.8
<b>Current Occupation</b>		
Managers	446	20.3
Accountants and Treasurers	355	16.1
Other Financial	231	10.5
Financial Professionals	222	10.1
Tax and Foreign Exchange Specialists	172	7.8
Directors, General Managers	148	6.7
Academic/Teaching	121	5.5
Science, IT, Engineering	121	5.5
Not Working/Student	115	5.2
Health	113	5.1
Non-Responders	100	4.5
Other	57	2.6
<b>Place of Residence</b>		
UK	871	39.6
Australia	598	27.2
USA	239	10.9
Asia	188	8.5
Europe (other than the UK)	109	5.0
Canada	55	2.5
Pacific	33	1.5
Middle East	27	1.2
Caribbean and South America	25	1.1
Non-Responders	21	1.0
Africa	20	0.9
More than one location	15	0.7

item content can best be described as 'glocal,' i.e., respecting the melding of global and local context, and their joint influence on individual behaviour (Carr, 2004).

The process for compiling our initial list of potential test items began with an exhaustive literature search, including a content analysis of the key themes represented in the literature as a whole. These themes were broken down further into sub-components. A prime example is the theme of bringing up children, which forms a salient sub-category of the more general theme, "Family." Once this process of content analysis was complete, we converted each of the recurring sub-themes into items, and pilot tested these in a draft

version of the questionnaire that was eventually posted online during late 2003.

**Response scale.** We used the pull-push type of scale measure described and reviewed in Zweig (1997). For further background, see King, Stachan, and Mortimer (1983), and Pedersen and Lee (2000). Participants were asked to indicate their responses to 26 items that were intended to reflect issues that might attract respondents back to New Zealand or, alternatively, induce them to stay overseas. Participants were provided with the following passage: "By living overseas, many New Zealanders will experience push and pull factors in different directions. Please use the scale below to rate your

attitudes on each of the items presented below." Responses were indicated on the following 5-point scale:

1. Draws me strongly towards NZ
2. Draws me towards NZ but not strongly
3. Draws me equally towards NZ and overseas or is irrelevant to me
4. Draws me towards remaining overseas but not strongly
5. Draws me strongly towards remaining overseas

Participants initiated responses by choosing one of the five scale alternatives from a drop-down menu situated next to each item.

### Procedure

As the use of drop-down menus implies, this survey was conducted on the Internet. Specifically, the professional associations first emailed their members with a notification about the purpose and ambit of the survey, followed by an invitation to participate by clicking onto a specially provided URL ([www.newzealandersabroad.org.nz](http://www.newzealandersabroad.org.nz)). The questions reported in this study formed only a small part of this e-survey, which was broadly connected with attitudes towards returning to NZ, and contained qualitative as well as quantitative items. The entire survey itself was relatively short, taking on average 10-15 minutes to complete during piloting. Completed questionnaires were submitted back to us electronically.

### Results

All analyses were conducted using SPSS (version 12.0.1). Concerns about factor indeterminacy (see Hair, Anderson, Tatham & Black, 1998) were paramount in this study, as it was the intention of the researchers to use factor score weightings from derived components in future studies. Factor indeterminacy is an issue of concern primarily to theory building, which was a major objective of this study. Because of this, principal components analysis (PCA) was chosen as the method of extraction. Velicer and Jackson (1990) comment that the choice of PCA over common factor analysis (FA) is, in any case, unlikely to result in substantive empirical differences. The PCA was run with an oblique

rotation to allow for interconnectedness between components, e.g., economic and political issues. Also in accord with Carr et al.'s theoretical model above, we adopted an a priori approach to data reduction, by requesting the extraction of five principal components. To assuage concerns regarding the prior specification of the number of components, a scree test (Cattell, 1966) was performed on the data, which indicated a reasonably distinct dip towards a latent root of 1 after the extraction of five components.

#### Principal Components Analysis

Visual inspection of bivariate correlation statistics revealed several coefficients above .30 in magnitude, suggesting the plausibility of data reduction. Bartlett's test of Sphericity

was significant,  $\chi^2(276) = 12689.22$ ,  $p < .05$ ; and the measure of sampling adequacy (MSA) returned a value of .85, which is defined as *meritorious* in terms of the appropriateness of applying factor-analytic techniques (Kaiser, 1974). In the analyses presented below, component loadings of .30 or greater are displayed, as this often represents the minimum level of magnitude required for meaningful interpretation (Hair, et al., 1998).

Table 3 presents the pattern matrix for the items in this study for the PCA. Communalities, sums of squared loadings and their associated variance and cumulative variance explained are also presented. Table 3 shows relatively clear loadings on the five components requested for extraction. The first component explains a large

portion of the variance in the items, the second component explains a reasonable portion of the variance, and the remaining components explain lesser amounts of the total variation. Total variance explained by this five-component solution was 47.93%, which was deemed acceptable in terms of explanatory power. All of the inter-component correlations were under .30.

Also included in Table 3 are mean scores for each item, along with their standard deviations. These figures reveal that components 1 and 2 (*lifestyle* and *family/whanau*, respectively) tend to be net pull components towards New Zealand; whereas the remaining components (*career*, *culture*, and *economics*) tend to be predominantly 'push' components, keeping people

Table 3. Pattern Matrix<sup>a</sup> for Features that Attract or Repel People To or From New Zealand (PCA)

Item	Component					<i>h</i> <sup>2</sup>	<i>M</i>	<i>SD</i>
	1	2	3	4	5			
Lifestyle	.76					.61	2.28	1.36
Bringing up children	.68					.54	2.04	1.11
Sports and recreational activities	.65					.50	2.46	1.08
Safety and security	.55				.33	.44	2.26	0.94
Cost of living	.50				.46	.46	3.08	1.01
Freedom to do what I like	.47					.45	3.16	1.11
Home ownership	.46					.39	2.61	1.12
Having fun	.45			.42		.47	3.08	1.01
Educational opportunities	.44					.32	2.94	1.03
Partner (long term)	.34					.32	3.20	1.12
Parents/older relations		.90				.76	1.88	1.05
Being close to relatives		.89				.77	2.61	1.06
Friends		.41				.29	2.03	1.02
Sense of identity		.32				.36	2.36	0.95
Career opportunities			.85			.68	4.27	0.90
Salaries			.70			.52	4.31	0.84
Business opportunities			.66			.51	3.69	1.03
Challenge			.47	.34		.47	3.68	0.92
Cultural opportunities				.77		.57	3.47	0.94
Arts opportunities				.72		.50	3.42	0.83
Learning for life				.59		.44	3.39	0.88
Ethnic mix				.57		.41	3.23	0.84
Developing new relationships				.44		.34	3.16	0.81
Tax system					.74	.57	3.00	1.02
Tall poppy syndrome					.38	.30	3.34	0.76
Sums of squared loadings	4.19	2.53	2.94	3.48	1.53			
Variance explained	22.08	8.67	6.44	5.69	5.05			
Cumulative variance explained (%)	22.08	30.75	37.19	42.88	47.93			
Scale Mean Scores	2.67	2.23	3.99	3.34	-			
Scale SDs	.65	.72	.66	.57	-			

Note: *h*<sup>2</sup> = Communality estimates.<sup>a</sup> Principal components analysis was used as the method of extraction with direct oblimin rotation. Component loadings are ordered by size. The variance explained value was derived from unrotated components. Component numbers refer to the following labels: 1 = Lifestyle; 2 = Family/Whanau; 3 = Career; 4 = Culture; 5 = Economics.

Mean item scores <3.00 indicate net attraction to New Zealand  
 Mean item scores >3.00 indicate net attraction to overseas location.  
 Higher mean scale scores indicate higher general net attraction to overseas location.

overseas rather than attracting them back to New Zealand. The overall pattern in Table 3 also deviates, though only slightly, from the model proposed in Carr et al. (2004). Specifically, political concerns do not coalesce into a distinctive component separate from lifestyle, which in turn is distinct, in this sample, from family/whanau.

A preliminary and cursory examination of some of the patterns among the components was explored. With reference to Table 3, items were averaged for components one through three to create comparable scale scores. For component four, only those items loading specifically onto that component were averaged for ease of interpretation. Due to the provisional loadings associated with the fifth component, and again to err on the side of caution, the economics component was not included in this analysis. Hair et al. (1998) state that "the generally agreed upon lower limit for Cronbach's alpha is .70, although it may decrease to .60 in exploratory research" (p. 118). Bearing in mind the inherent exploratory nature of this research, and the relatively small number of items in some of the scales (see Cortina, 1993), Cronbach's alpha's for the four components analysed were deemed acceptable for research purposes (.80, .65, .70, and .69, respectively). To give an overall impression of the variation among the different components, Friedman's two-way analysis of variance by ranks was used. A significant effect was found for the components included,  $\chi^2(3) = 4368.10, p < .001$ , indicating statistically significant variation among the scale scores.

## Discussion

### Key findings

The purpose of this study was to explore a range of items thought to underpin decisions to stay in a country of destination (in this case, outside of New Zealand) versus to return to one's country of origin, and to explore their component structure. These intentions were strictly exploratory, as no known studies have explicitly sought to achieve this worthwhile aim before. Because of this, we believe that our study presents a first step towards quantifying a set of

summary variables that may assist in building more substantive frameworks in future studies of this nature. Our analyses indicated, relatively clearly and consistently, a 5-dimensional pattern of motives for talent flow, among expatriated New Zealanders. These data reflected a relatively similar pattern to the general model identified in Carr et al.'s (2004) review. These data, from a New Zealand sample, suggest that there may be a unique 'Kiwi lifestyle' component motivating the pushes and pulls on our sample, and that, for this sample and on this measure, an overtly 'political' component is less visible (through items, for example, like "safety and security"). This relative lack of visibility may be partly because the political system in New Zealand is comparatively stable and so of less concern (which also meant that we did not include items on political instability or repression). Nonetheless, the data are a reminder to us that, for any given country-of-origin and destination, there will be a unique combination of relatively globally and locally salient motives – motives that are specific to a 'glocality' (Carr, 2004). Thus, our scale is a useful starting point for exploring other migratory glocalities.

As a supplementary analysis to the PCA, some of the differences between scores on four of the five components were tentatively explored. Four components were included in this analysis, as previously mentioned, to allow for a conservative stance on the data, due to provisional loadings associated with the fifth component. Evidently, the career issue was, in comparative terms, a motivating facet worthy of some note. All in all, and in future studies, the variation observed among these four components (see the Results section for Friedman's analysis of variance) may suggest that each of these issues may contribute something independent towards the prediction of return intentions. Further analysis of such substantive questions, however, should be the focus of future research.

### Links to Theory

Many of the empirical findings shown in Table 3 are in accord with the theoretical suggestions made in King et al. (1983), and Pedersen and Lee

(2000). These authors collectively mention issues pertaining to culture, family, careers, and economics, which relate directly to the literature discussed previously. Our own study contributes to this literature by providing preliminary empirical evidence for such claims. At the same time, our data also suggest that because of the impact of glocality, the component structure of motives for migration may vary somewhat from one global location to another. For example, as we have just seen, 'political' items, which merged in our study into Lifestyle, might have more salience, and perhaps component distinctiveness, in a sample of skilled expatriates from a less prosperous and/or stable region than New Zealand (Louv & Foster, 1986). Thus, what we have outlined is as much a process (of measuring motives by fine-tuning a standardised set of items) as it is a product (of describing the kinds of issues that tended to motivate our particular sample of skilled and experienced expatriate New Zealanders).

The term "motivational" means literally "to move," and so it is rather surprising perhaps that psychologists have not yet developed a theory of global mobility based on psychological motives. As we pointed out in the Introduction to this paper, motivation is also a core concern in the business of organisations, and our study specifically links the motivation to reverse migrate, back into the home labour market, to relatively social and personal considerations like lifestyle and family, to relatively organisational concerns like economics and career. Nexuses like this are broadly consistent with one of the zeitgeists in I/O psychology, namely the linkage between work and wider concerns known as "work-life" and "work-family" balance. As well however, our research is a timely reminder that "career capital" (Inkson & Myers, 2003), which is often gained through experience overseas, can also be attracted back to the source labour market, if the incentives are psychologically appropriate. A key element in striking that match, we believe, will be having an informed sense of what motivates global careers (Inkson et al, 2004).

### Limitations

The PCA shown in Table 3 perhaps points to some of the measurement challenges inherent in this data-set, with several communality estimates that are low in absolute terms. Explained variance in the PCA solution shows that the first component explains a large portion of the variance, whilst the remaining components explained relatively and substantially less variance among the items. As such, this study should only be viewed as an exploratory effort to derive a summary set of variables that might, hypothetically, explain variance in intentions to return or to remain overseas. Further confirmatory research is warranted on the variables summarised in this study. The present study suggests, however, the emergence of several components with meanings that align with theory.

### External Validity

Particular care should be observed when drawing generalisations from these data. Specifically, the demographic information presented in Table 1 suggests that a sizeable proportion of the sample was composed of individuals working in financial professions. Additionally, a large proportion of the sample were highly qualified New Zealand Europeans. When interpreting the findings of this study, the reader is warned that generalisation beyond such individuals may be hazardous. The results of this study may not reflect the views of individuals who belong to different occupational groups and entry level positions, although inter-occupational differences among the occupational groups studied were slight (Inkson, et al., 2004). Note, however, that the primary interest of this study is concerned with talent flow. Members of the sample represent groups that could reasonably be considered part of the talent pool in New Zealand.

### Future Research

It is likely, given the nature of the data, that exploration from alternative perspectives, such as profiles constructed for similar individuals rather than items (e.g., cluster analysis), may be appropriate in subsequent research. This would provide an informative account of what characteristics talented emigrants

hold. As different components may be more or less relevant in different countries, it would be interesting to perform cluster analyses, PCAs, and/or FAs on samples from other countries to investigate differences among cultural groups. Future studies could also look to see whether the components derived in this study can predict intentions to return to New Zealand or to remain overseas, and indeed, our intention is to utilise factor or scale scores as presumed predictors in a regression analysis in which the dependent variable is strength of intention to return to New Zealand versus remaining overseas. Other predictors such as gender, age, country-of-residence, occupation and length of time spent overseas may also explain meaningful variance in such intentions. We hope that, such analyses will provide us with more precise measures of the forces governing this component of talent flow.

Balanced against this, we also need to better understand the immigration of skilled professionals into this country. While New Zealand does lose talent to overseas economies, a relatively large amount of talent also enters New Zealand from overseas (Bedford, 2001). New Zealand's immigration policies are centred on the attraction of younger, educated, and/or entrepreneurial migrants, particularly from Asia and South Africa, yet some of these groups ironically find it very difficult to find work that fits those skills that enabled them to immigrate to New Zealand (Spoonley, 2003, and Winkelmann, 2000). Quality of life issues, including social exclusion, racial hostility, homesickness, and under-employment or unemployment, might substantially influence an individual's decision on whether to stay in New Zealand or whether instead to enact the migration equivalent of organisational turnover - moving on to more receptive countries and being lost to New Zealand for good.

### Practical Implications

We envisage at least three major applications for the components identified in this study. Firstly, measures of the motivational issues suggested above could be used by organisations to design attractive packages for persuading

overseas talent to consider migrating in order to join their organisation. Note that these motivating issues are likely to form part of a larger network of factors that may influence departure and return. From the present dataset for example, we are working with specific professional associations to provide them with data about their own particular members, and the kinds of incentive that may appeal to them. This application may also eventually be extended to measuring not only group tendencies, but also individual differences as well. Secondly, our approach is relevant to government policy-makers, for example planners and decision-makers in the Ministries of Immigration and Economic Development. As New Zealand strives to create a knowledge economy, there is inevitably a developing interest in growing innovation (Growth & Innovation Advisory Board, 2004), and talent flow is one relatively obvious way to help achieve such goals. Thirdly, and as the last example implies, the interest in talent flow is increasingly being linked to wider global development. Thus, organisations such as the OECD are currently formulating global programmes for monitoring talent flow, in which the development of psychometrically appropriate measures has become a central concern (OECD, 2004).

### Conclusion

Industrial and organisational psychology is being applied in new and innovative ways in New Zealand, to help measure, plan for, and theorise about, the complex human processes involved in global labour mobility. Psychometric skills and methods, and in particular the measurement of motivational migration patterns, are at the heart of such applications. Research of this kind has the capacity to inform knowledge-based organisations in private industry, civil services, and international development. The research also has the potential to contribute to the theory of career momentum and talent flow.

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#### Acknowledgements

The Talent Flow Programme wishes to acknowledge the invaluable support of a research grant from the Academy of Business Strategic Research Fund, based at Massey University. We also thank the Department of Management and International Business, and the School of Psychology for supporting this research, with special thanks to web-master Harvey Jones. Last but certainly not least, we wish to thank the many New Zealanders who kindly shared with us their time, goodwill, and expert perceptions.

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