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THE DEVELOPMENT OF AN INSTRUMENT FOR MEASURING ORGANISATIONAL INERTIA

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ABSTRACT

This study had a dual purpose: firstly, to integrate the wide variety of seemingly diverse theoretical perspectives of various theorists with respect to organisational inertia into a single umbrella theoretical model. Secondly, to develop a measuring instrument that is based on the aforesaid theoretical model. The instrument was completed by 617 respondents in various industrial sectors undergoing transformation. Responses obtained on the 109 items were then subjected to a factor analysis and the two scales obtained were subjected to further iterative item analyses. Results indicate that organisational inertia is a one-dimensional construct. The implications of these findings are further discussed.

OPSOMMING

Die doel van hierdie studie was tweeledig, naamlik om in die eerste plek, die groot verskeidenheid van oënskynlik uiteenlopende teoretiese perspektiewe van verskillende teoretici rakende organisatoriese traagheid in 'n enkele sambreelmodel te integreer. Tweedens om 'n meetinstrument te ontwikkel wat op die voorgenoemde teoretiese model gebaseer is. Die instrument is deur 617 proefpersone ingevul, in verskeie bedryfsektore wat tans transformasie ondergaan. Response op 109 items is hierna aan 'n faktorontleding onderwerp en die twee verkreë skale is aan verdere iteratiewe-itemontledings onderwerp. Resultate dui daarop dat organisatoriese traagheid 'n eendimensionele konstruk is. Die implikasies van die bevindinge word verder bespreek.

Organizations are under tremendous pressure to adapt to the continuous and increasing number of changes in the external environment. However, in many instances organizations which face environmental pressures acknowledge the need to change, but do not change (Fombrun, 1992; Senge, 1990).

This phenomenon is the result of a concept called **organisational inertia**, which can be described as the resistance of an organization to make transitions and its inability to quickly and effectively react to change. According to the Oxford Advanced Dictionary, inertia is defined as *the tendency to remain in an existing state or, if an object is in motion, to continue in a straight line.* Within an organisational context, inertia indicates the tendency to remain within the status quo and the resistance *to strategic renewal outside the current frame of strategy* (Huff, Huff & Thomas, 1992, p. 55).

The change efforts referred to in this article apply to any type of change that is introduced, varying from the implementation of new systems or processes to organisational development interventions, large-scale re-engineering and organisational transformation.

A salient feature of the inertia theory is, ironically, the very momentum inherent in inertia. In this regard, Fombrun (1992) notes that, although inertia principally retards change, it also contributes to the gathering of momentum that propels organizations forward. However, the momentum thus created, generally reinforces the status quo. Organisational reliability require stable structures and processes. Whilst providing the necessary stability to ensure performance, these features also generate resistance to change, in that they protect and maintain the status quo (Kelly & Amburgey, 1991).

Figure 1 graphically illustrates forces that are at play in organisational inertia and momentum.

Figure 1 provides a basic model for organisational inertia and some of the elements that impact on it. In this model, the organisational intent to transform from an existing to a desired state is indicated. On the left side of the model, external forces that may impact on inertia are listed. The circle in the middle of the model indicates the vicious circle in which organizations are trapped, with certain forces hampering change, whilst others facilitate change. Change-resistance forces reinforce existing management practices, thus gathering momentum for the continuation of the status quo. As a result of this, change-facilitating forces have a limited impact on organisational practices, and inertia becomes an ever-greater, integral part of the system.

A review of related literature on organisational inertia indicates that authors on organisational change do not always use the word "inertia" when referring to lethargy within change processes. Authors such as Bryant (1988); Connor and Lake (1988); Dalziel and Schoonover (1988); Diamond (1986); Eccles (1994); Fombrun (1992); Hammer and Stanton (1995); Harrison and Dawes (1994); Kelly and Amburgey (1991); McCarthy (1995); Michael (1981); Moerdyk and Fone (1986); Pasmore (1994); Robbins (1994); Schein (1992); Senge (1990) and

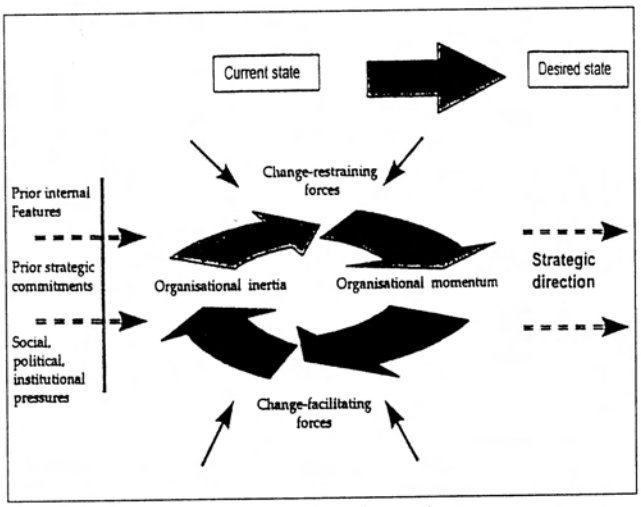

Figure 1: Forces in organisational inertia
Adapted from Connor and lake (1988, p. 69) and Fombrun (1992, p. 91)

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TABLE 1
A SUMMARY OF CONCEPTS RELATED TO ORGANISATIONAL INERTIA

CONCEPTS	AUTHOR	DESCRIPTION
Organisational inertia	Fombrun, 1992	Organisational inertia is a result of organisational features such as capabilities, controls, culture and conduct.
Structural inertia	Kelly & Amburgey, 1991; Robbins, 1994	Structural inertia occurs when the rate at which internal changes and reorganisation take place is much lower than the rate at which environmental factors change. A clear relationship exists between structural inertia, age and size.
Organisational momentum	McCarthy, 1995	Momentum resides primarily in structures and workforce capability.
Change-restraining forces	Connor & Lake, 1988	Any forces that might work against the successful implementation of change. These forces are unique to each organisation, depending on the type of changes required. Restraining forces can be found in culture, employee characteristics, availability of resources, the proposed change itself and the need for change versus that for stability.
Organisational viscosity	Eccles, 1994	Organisational viscosity is a result of the power and concerted will of management, capabilities and level of knowing support of employees, the cost and amount of relevant assets and resources that the organisation can put behind the proposed changes.
Organisational responsiveness	Walters, 1994	Organisational responsiveness requires a clear sense of direction and vision, the availability of information and the effective communication at all levels, flexibility in process and an acceptance of change, a thorough understanding of the strengths, weaknesses, capabilities and shortcomings of the organisation. A lack of these will, therefore, result in inertia.
Organisational learning disabilities	Pasmore, 1994; Senge, 1990	Learning disabilities result from people's inability to see their positions as bigger than themselves, to see long-term patterns, to see and react to gradual change, blame of others, and management teams who pretend to have the answers to everything.
Barriers to learning	Harrison & Dawes, 1994	Negative emotions, such as fear, anger and resentment that are not discussed openly may result in barriers to learning.
Organisational readiness	Dalziel & Schoonover, 1988	Organisational readiness is affected by previous experience in accepting change, clarity of expectations, the support of top management, the origin of change and the compatibility to organisational goals.
Resistance to change	Bryant, 1988; Connor & Lake, 1988; Diamond, 1986; Hammer and Stanton, 1995; Michael, 1981; Moerdyk & Fone, 1986; Robbins, 1994; Schein, 1992.	Elements that contribute to resistance are: timing of change; extent and acceptance of change; change agent impact; people's perceptions, needs and personalities; insecurity; habits; the threat of giving up established relationships; peer pressure; threat of losing resources and expertise; cultural beliefs; the nature of the after-effects of previous changes; insufficient knowledge about the change; poor communication; inconsistent behaviour by executives and change agents; lack of sufficient conceptual and physical skills.

Walters (1994) refer to various factors that have bearing on the inability and sluggishness of open systems to change. In many instances, these authors have elected to expound their own theories around organisational inertia that comprise mere synonyms or antonyms, often overlapping with existing theory or merely adding a different dimension to theories on inertia. Table 1 reveals the most common elements found in recent literature on change.

Table 1 indicates that inertia is viewed from different angles, depending on the unique interest and specific orientation of the particular author. From the summary, it becomes clear that the terminology used to describe organisational inertia is an indication of each author's unique paradigm and frame of reference regarding change. Based on the fact that no evidence could be found of attempts to integrate these seemingly diverse perspectives into one holistic viewpoint, it can be said that the mentioned individual paradigms result in a limited view of organisational inertia.

Table 1 also furnishes proof that organisational inertia is a complex phenomenon, which can be manifested in various forms and at various levels of an organisational system. The fact that inertia is a "hidden" phenomenon implies that a distinct effort should be made to identify the inertia in organisational systems in order to bolster the success of change interventions..

Considering the aforementioned literature, it is easy to understand that divergent terminology may contribute to a degree of confusion among scholars in organisational-change theory. It has, therefore, become imperative to follow a more economical approach to the theory behind inertia and to make

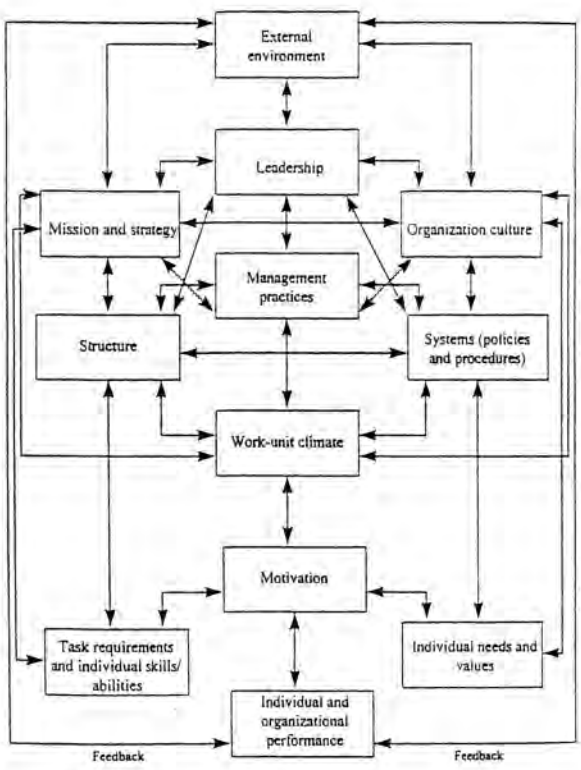

Figure 2: The Burke-Litwin model of organisational performance and change

TABLE 2
BURKE-LITWIN VARIABLES AS INERTIA-CONTRIBUTING FACTORS

Concepts and authors	Burke-Litwin variables: External environment	Leadership	Mission and strategy	Culture	Management practices	Structure	Systems (pol & procedure)	Work-unit climate	Motivation	Task & skills	Individual needs and values	Performance
Organisational inertia Fombrun, 1992.	*			*		*	*			*	*	
Structural inertia Kelly & Amburgey, 1991; Robbins, 1994.						*	*					
Organisational momentum McCarthy, 1995.						*				*	*	
Change-restraining forces Connor & Lake, 1988.		*			*				*		*	
Organisational viscosity Eccles, 1994.		*	*						*		*	
Organisational responsiveness Walters, 1994.			*		*	*	*			*		
Organisational learning disabilities Pasmore, 1994; Senge, 1990.					*					*		
Barriers to learning Harrison & Dawes, 1988.					*							
Organisational readiness Dalziel & Schoonover, 1988.		*	*		*							
Resistance to change Bryant, 1988; Connor & Lake, 1988; Diamond, 1986; Hammer and Stanton, 1995; Michael, 1981; Moerdyk & Fone, 1986; Robbins, 1994; Schein, 1992.		*	*	*	*		*	*	*	*	*	

a concerted attempt to integrate the concepts that pertain to this phenomenon.

To achieve the first objective of this study, namely to integrate the wide variety of seemingly diverse theoretical perspectives of various theorists related to organisational inertia, a theoretical model was used that allowed for the incorporation of all identified factors which may contribute to organisational inertia. This model also served as the springboard for achieving the second objective of the study, namely to develop an instrument for measuring organisational inertia.

The Burke-Litwin Model of Organisational Performance and Change as described by Burke (1992, p.128), indicated as Figure 2, was of benefit in that it divided organisational data into useful categories, and covered the necessary domains identified in literature in respect of organisational change. The said model also defined the interaction between the variables, as well as the open-system principle, in terms of which change being wrought in one variable will affect all other variables.

The Burke-Litwin Model, (1992), consists of the following:

(i) Transformational variables, which are displayed in the upper part of the model, which houses the external environment, mission, leadership and culture. These variables refer to areas in which alteration is likely to be caused by internal and external environmental forces and which require entirely new sets of behaviour.

(ii) Transactional variables, which consist of structure, management practices, systems, the work-unit climate, task requirements, motivation and individual needs and values. These variables are influenced by short-term interchange between individuals and groups.

In a further attempt to capture the essence of organisational inertia, a content analysis of the identified theoretical concepts mentioned in Table 1 indicates that these concepts can be grouped according to the adapted Burke-Litwin Model. Table 2 distinguishes between the various theoretical concepts and indicates which concepts refer to specific variables within the Burke-Litwin Model as contributing factors to organisational inertia.

To ensure a holistic view of organisational inertia, each variable within the Burke-Litwin Model was further analysed in so far as it applies to organisational inertia. This analysis resulted in the identification of specific dimensions related to organisational inertia. These dimensions assisted in focusing only on aspects that actively contribute to organisational inertia in change efforts, thereby highlighting those aspects which are often hidden in organisational systems. This approach allowed for the gathering of critical information regarding restraining forces in the change process by identifying factors specific to organisational change and inertia. These dimensions are captured in Figure 3.

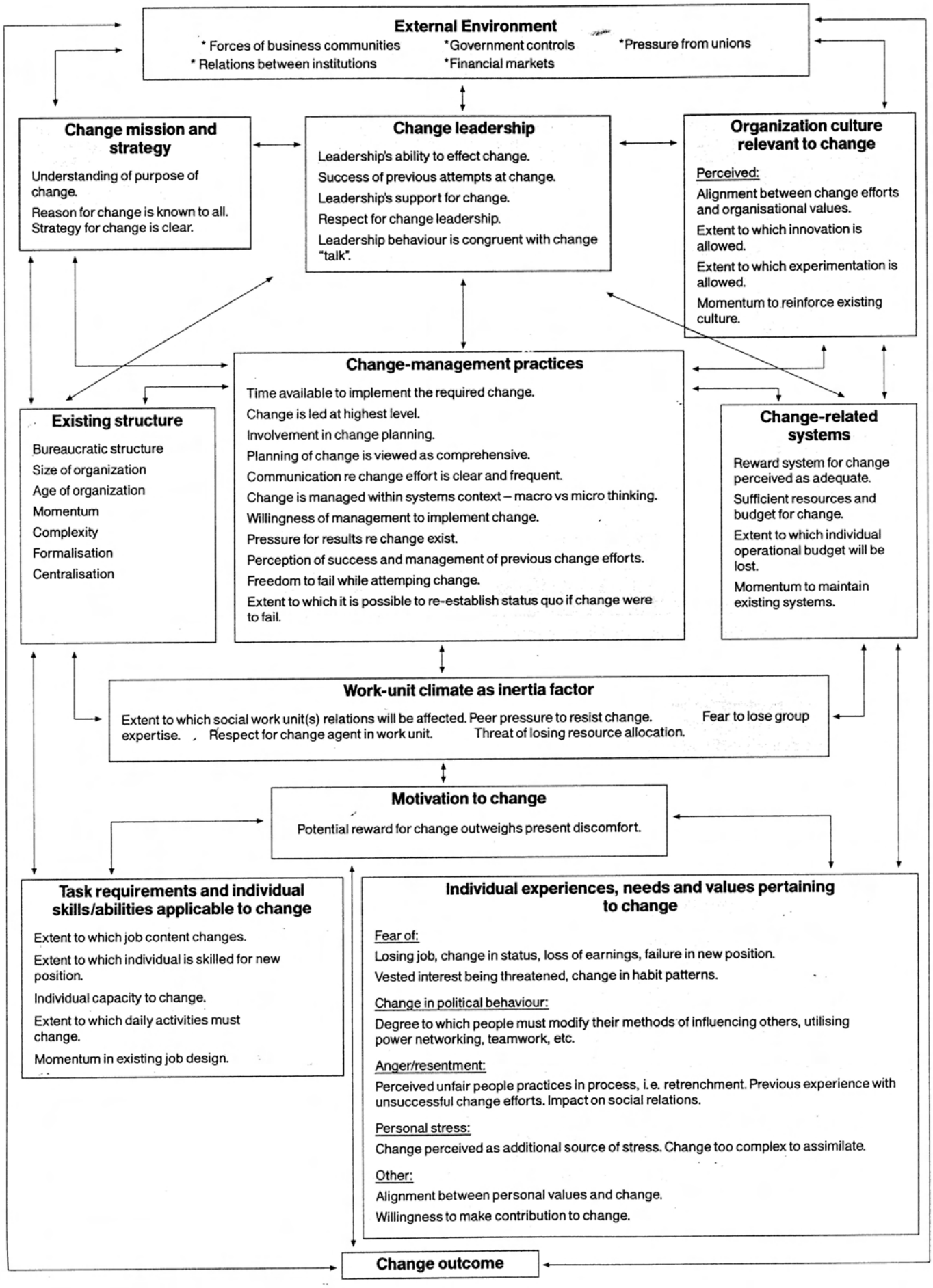

Figure 3: Adapted Burke-Litwin model with contributing factors to organisational inertia
(Original source: The Burke-Litwin Model of Individual and Organisational Performance, W. Warner Burke Associated, Inc. (Burke, 1992, p. 128)

According to Burke (1992, p. 129), the Burke-Litwin Model indicates the weighting of change dynamics. This means that variables of strategy, leadership and culture carry more weight and have a more profound effect than the variables of structure, management practices and systems. Although most authors on change literature acknowledge the need to involve both technical design and human processes in change processes, however, a growing number of authors are stressing the importance of transactional variables in the change process. Latter authors claim that failure to attend to human processes, and more specifically, the psycho-social dynamics of change, will inevitably result in the failure of change and transformation interventions (Beck & Linscott, 1993; Herzog, 1991; Kirkpatrick, 1993; McCarthy, 1995; Sadler, 1995; Veldsman, 1993; Want, 1995).

Hammer and Stanton (1995, p. 118) address a cautionary word to the implementers of transformation efforts, closely to attend to the concerns and needs of people in the organisation, or else to experience inevitable failure. They point out that the hardest part of successfully implementing transformation is getting people to let go of their old ways and embrace new values. According to Hammer and Stanton, the primary source of the difficulties experienced with transformation effort lies in the area of coping with the reactions of people in the organisation to the extent of any given change.

Herzog (1991) also subscribes to the above authors' view when he states that "the key success factor of dealing with the implementation of change, is how well we can manage people through change" (p. 8).

The above discussion serves as an incentive for adding the emotional experiences elicited by change to the list of contributory factors to the individual needs and values component of the Burke-Litwin Model.

The adapted Burke-Litwin Model portrayed in Figure 3 served as a synergised model of the varied perspectives on organisational inertia. The authors proceeded on the assumption that organisational change might very well fail if change facilitators failed to address the latter components of organisational inertia.

Based on the aforesaid integrated model, the second objective of this study was to develop a measuring instrument to identify inertia-contributing forces.

A question that often arises in the domain of change management is whether or not change efforts should concentrate on reducing restraining forces or on emphasizing and building on change-facilitating forces (Connor & Lake, 1988). The approach followed in this study, was to provide an instrument that identifies restraining forces in the change process, thus eliminating those forces which contribute to inertia. This will hopefully provide change facilitators with the necessary information to effect an intervention that could cushion the impact of these forces before attempting to enhance the effect of change-facilitating forces.

Harrison (1994) suggested that a diagnostic tool be made available for immediate use by members of an organisation. Owing to individuals' unique nature, something that is perceived as a barrier to change for one individual, may well be an incentive to another (Walters, 1994). It was, therefore, important to develop an instrument that could identify individual perceptions regarding factors which contribute to organisational inertia.

METHOD

Sample

The population used in this study consisted of individuals from junior- to senior-management levels employed in South African companies where change interventions had been introduced. A sample of convenience was drawn and various sectors were targeted, such as the chemical industry, the financial-services industry, the insurance industry, the automobile industry and the pharmaceutical industry.

In total, 963 questionnaires were distributed, of which 617 were returned. It is also well known that factor structures tend to stabilise on larger sample sizes, (Thorndike, 1982) a requirement which this study complies to easily. The number of responses received was as follows: chemical industry 32, financial-services industry 251, insurance industry 122, automobile industry 177, pharmaceutical industry 35. This culminated in a response rate of 64%.

The largest proportion of the questionnaires was returned by the financial-services industry and the automotive and insurance industries. The biographical data of the sample is described in Table 3.

TABLE 3
BIOGRAPHICAL PARTICULARS OF RESPONDENTS

	%	N
INDUSTRY (N=616)		
Automotive	28,4	175
Chemicals	3,6	22
Financial services	40,6	250
Insurance	18,2	112
Pharmaceutical	6,2	38
Other		19
LANGUAGE (N=616)		
Afrikaans	46,0	282
English	48,6	298
Xhosa	0,7	4
Zulu	1,1	7
Other		25
GENDER (N=616)		
Female	35,1	216
Male	64,9	400
MANAGEMENT LEVEL (N=613)		
Junior	48,9	300
Middle	34,7	213
Senior	16,3	100
ACADEMIC QUALIFICATIONS (N=613)		
Lower than Matric	5,1	31
Matric	34,1	209
Matric with diploma	32,6	200
B degree	14,2	87
Postgraduate degree	14,0	86
YEARS AT EXISTING COMPANY (N=614)		
Five years or fewer	33,9	208
6 to 15 years	43,4	266
16 or more	22,7	140
YEARS IN CURRENT JOB (N=610)		
Five years or fewer	74,1	452
6 to 15 years	23,6	144
16 or more	2,3	14

The respondents in the sample were mostly English- or Afrikaans-speaking, between the ages of 30 and 49, married and from junior- or middle-management levels. Twice as many males as females completed the questionnaire. The majority of the respondents (60,7%) had academic qualifications beyond Matric, and 66,1% had been employed at their respective companies for longer than five years. A relatively

TABLE 4
THE INTERCORRELATION MATRIX OF SIMPLIFIED FACTOR SCORES (SFS) (16X16)

Simplified factor scores	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1,0000															
2	0,6711	1,0000														
3	0,6251	0,7087	1,0000													
4	0,5752	0,5592	0,6590	1,0000												
5	0,6410	0,5621	0,6216	0,6440	1,0000											
6	0,5466	0,4249	0,4214	0,3709	0,4591	1,0000										
7	0,3490	0,2817	0,3231	0,4354	0,5073	0,2871	1,0000									
8	0,7531	0,7125	0,7075	0,6216	0,6734	0,5349	0,3620	1,0000								
9	0,5845	0,4994	0,4087	0,2939	0,4249	0,2974	0,1195	0,4837	1,0000							
10	0,6382	0,6806	0,5798	0,4479	0,5146	0,5096	0,2143	0,7082	0,5081	1,0000						
11	0,6391	0,7669	0,6839	0,5288	0,5781	0,4220	0,3188	0,6903	0,4536	0,5689	1,0000					
12	-0,1320	-0,0093	-0,0741	-1,4410	-0,0737	-0,0495	-0,0591	-0,1228	-0,0957	0,0017	-0,0955	1,0000				
13	0,6195	0,5898	0,5629	0,4728	0,5307	0,4822	0,2826	0,6484	0,3886	0,5858	0,5892	-0,0428	1,0000			
14	0,2629	0,2169	0,2464	0,2801	0,1589	0,2014	0,2469	0,2084	-0,0835	0,1648	0,2054	0,0678	0,1718	1,0000		
15	0,7004	0,5341	0,4653	0,3581	0,4934	0,4217	0,2223	0,5369	0,5200	0,5081	0,4990	-0,0706	0,4528	0,1719	1,0000	
16	0,4903	0,4102	0,4119	0,3452	0,4248	0,4247	0,2030	0,4881	0,3156	0,5083	0,4101	-0,0615	0,4885	0,2539	0,3698	1,0000

high percentage (74,1%) of all respondents had been in their existing jobs for a period of five years or less. This figure indicates that many of them have experienced job changes in the past few years.

Measuring instrument

To identify the constructs applicable to the organisational-inertia theory, the contributing factors to organisational inertia were grouped according to their relevance to a specific variable within the adapted Burke-Litwin Model. Then, relevant literature on organisational inertia was superimposed on the adapted Burke-Litwin Model in more specific terms to identify which elements pertaining to a certain variable should be addressed to overcome organisational inertia. In constructing this model, the concepts mentioned in Table 1 were considered, as well as the additional input from the following authors: Allaire and Firsirotu (1985); Beckard and Harris (1987); Burke (1992); Goldberg (1992); Kirkpatrick (1993); Pritchett and Pound (1995) and Want (1995).

The constructs developed are summarized in Figure 3, which provides an overview of all identified elements. Every possible effort was made to ensure that the instrument complies with the criteria for standardized measuring instruments, as formulated by Schepers (1992, pp. 2-7).

The questionnaire consisted of 109 items. In an attempt to overcome traditional problems experienced with the Likert-type scales, a seven-point intensity scale, anchored at either side, was used as a response format (Schepers, 1992, p.15). Items were formulated in a question format.

Research procedure

Questionnaires were distributed to the identified companies. Each questionnaire was accompanied by a covering letter explaining the purpose of the survey. A contact person at each company ensured the distribution and collection of questionnaires. Confidentiality and anonymity were assured by requesting respondents to place questionnaires in a sealed envelope. All questionnaires distributed were collected, whether completed or left blank.

Statistical analysis

The procedure of statistical analyses as proposed by Schepers (1992, pp. 140-143) was used in this study. All statistical analyses were done by the Statistical Consultation Service of the Rand Afrikaans University. A Principal Factor Analysis was conducted and the BMDP 4M sub-routine was used. The NP50 program was used for the iterative-item analyses.

RESULTS

The 109 items of the questionnaire were intercorrelated. (Owing to the size of the matrix, it has not been reproduced in this article. It is however obtainable from the authors on request.) The eigenvalues of the unreduced-intercorrelation matrix were calculated and 16 eigenvalues greater than one (Kaiser, 1961) were identified.

Consequently, it was decided to extract 16 factors, which were rotated to a simple structure by using a varimax rotation. (Again, the results are not reproduced here, owing to a lack of space). Simplified-factor scores were calculated for each factor, after which these simplified factor scores were intercorrelated. The matrix of the simplified-factor scores is shown in Table 4.

The eigenvalues of the simplified-factor scores are displayed in Table 5. Three eigenvalues larger than one were obtained and, consequently, three second-order factors were initially postulated. The last two factors proved to be non-determined which resulted in a forced two-factor solution. This solution seemed to have been the best fit.

TABLE 5
EIGENVALUES

ROOT	EIGENVALUE
1	7,719
2	1,258
3	1,086
4	0,884
5	0,794
6	0,755
7	0,610
8	0,482
9	0,444
10	0,417
11	0,359
12	0,302
13	0,291
14	0,230
15	0,203
16	0,166

The postulated second-order factors were rotated to a simple structure by using a Direct Oblimin rotation. According to Schepers (1992, p. 136), a second-order factor analysis (using the Direct Oblimin rotation) is useful in uncovering the true

TABLE 6
FACTOR MATRIX FOR SECOND-ORDER FACTORS
(DIRECT OBLIMIN ROTATION)

Simplified Factor Scores	Items	K	Factor I	Factor II	Communalities h^2_j
SFS 1	Items F7, F8, F9, F12, F13, H1, H4, I6, I7, I8, I10 I11, J1, J2, J3, J4, J5, J6, J9, K1, K2, K3, K4, K5, L1, L2, L3, L4, L5, L6, L7, L9.	32	0,852	0,057	0,781
SFS 2:	Items D1, D2, D5, D7, D8, E1, E2, E3, E4, E5, E6, E7, E8, F1, F11.	15	0,747	0,138	0,684
SFS 3:	Items C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12.	12	0,518	0,397	0,641
SFS 4:	Items A12, B1, B2, B3, B4, B5, B6, B7, D6.	9	0,312	0,601	0,655
SFS 5:	Items A5, A6, A7, A8, A9, A10, A11.	8	0,516	0,372	0,604
SFS 6:	Items H5, H6, H7.	3	0,449	0,189	0,325
SFS 7:	Items A1, A2, A3, A4.	4	0,090	0,506	0,312
SFS 8:	Items F2, F3, F4, F5, F14, F15, G4, G5.	8	0,706	0,265	0,763
SFS 9:	Items I1, I2, I3, K6.	4	0,837	0,335	0,521
SFS 10:	Items G1, G2, G3, H8.	4	0,777	0,008	0,597
SFS 11:	Items D3, D4, F6.	3	0,688	0,150	0,604
SFS 12:	Items H2, H3.	2	0,130	0,015	0,019
SFS 13:	Item F10.	1	0,643	0,138	0,524
SFS 14:	Items I4, I9.	2	0,030	0,400	0,173
SFS 15:	Item K7.	1	0,719	0,075	0,465
SFS 16:	Item I5.	1	0,497	0,107	0,313

factor structure, which can sometimes be obscured by artefactors. The factor matrix for the two second-order factors is displayed in Table 6.

Items included under each scale were subjected to separate iterative-item analyses. Scale 1 consisted of 94 items. Item statistics for Scale 1 are reflected in Table 7.

During the iterative process, three items from Scale 1 (item C7, H2 and H3) were rejected. The item statistics relevant to this scale revealed item mean scores between 3,465 and 6,058. The standard deviations varied between 1,247 and 1,888, whilst the item-test correlations varied between 0,214 and 0,779. The majority of the item-test correlations varied between 0,5 and 0,7, which indicates that these items correlate closely with the other items in the test. The item-reliability indices varied between 0,344 and 1,125.

According to Cronbach's coefficient alpha, the internal consistency of this factor was 0,981. The items identified under Scale 1 all proved to be items that have a direct impact on organisational inertia. Scale 1 was, therefore, labelled the "Organisational Inertia" scale.

Scale II consisted of a total of fifteen items. During the iterative process, item A1 and I4 were rejected. The items tabled in Table 8, shared the closest correlation to the environment external to the change, the respondent's understanding and knowledge of the change strategy, their future role in the implementation of the change strategy and the extent to which new job skills and challenges will be required. Items in Scale II mostly indicated forces external to the individual's immediate control. This scale was, therefore, entitled the "External change forces, change strategy and imposed personal demands scale".

The item mean scores for Scale II varied between 4,862 and 6,057. The standard deviations ranged from 1,116 to 1,538 whilst the item-test correlations calculated to be beween 0, 324 and 0,713. The item-reliability indices varied between 0,478 and 1,022. According to Cronbach's coefficient alpha, the internal consistency of this factor was 0,887.

The correlation between the two aforesaid second-order factors is indicated in Table 9. This table indicates a statistically significant correlation between Scale I and Scale II.

DISCUSSION

This paper has explored the concept "organisational inertia". It has been found that different concepts used in change and transformation literature refer to the same or similar underlying factors, albeit by means of different terminology. This has resulted in a fragmented view of inertia. In order to integrate all the inertia-contributing factors, the identified concepts were summarized according to the variables indicated in the Burke-Litwin Model.

The Burke-Litwin Model has been adapted to focus on inertia-contributing factors that come into play during change efforts, and specific elements within each variable have been indicated. Based on this framework, items have been formulated to measure the identified dimensions.

During the evaluation of the two second-order factors identified during the empirical research exercise, it became clear that Scale I refers directly to organisational inertia based on the content of the items. This is supported by the high degree of internal consistency of the items within this scale. The study has, therefore, successfully identified a scale, although to be further validated, for the measurement of organisational inertia.

As identified in the theoretical dimensions mentioned in the adapted Burke-Litwin Model of Organisational Change and Performance (Figure 3), the following dimensions can be said to directly contribute to organisational inertia:

TABLE 7
ITEM STATISTICS FOR SCALE I

Item	Item description	N	Item mean ($\bar{X}_g$)	Standard deviation (S_g)	Item-test correlation (r_{gx})	Item reliability index ($r_{gx}s_g$)
A	**Inertia factors in change strategy**					
A5	Representative involvement in strategy formulation	617	4,656	1,471	0,579	0,852
A6	Customer needs as input to change strategy	617	4,900	1,575	0,545	0,858
A7	Comprehensiveness of change strategy	617	4,723	1,358	0,614	0,833
A8	Identification of resistance to change in strategy	617	4,368	1,471	0,500	0,735
A9	Management of resistance to change in strategy	617	4,169	1,564	0,640	1,001
A10	Complexity of change strategy	617	4,953	1,295	0,517	0,670
A11	Ease of change-strategy implementation	617	4,342	1,395	0,541	0,755
A13	Union support for change strategy	617	4,355	1,380	0,468	0,646
C	**Inertia factors surrounding change leadership**					
C1	Clarity of change-leadership's vision	617	5,598	1,389	0,614	0,853
C2	Excitement surrounding change vision	617	5,339	1,504	0,643	0,968
C3	Executive-level endorsement of change initiative	617	6,058	1,259	0,491	0,618
C4	Change-initiative support by all change leaders	617	5,541	1,421	0,565	0,803
C5	Confidence in change leaders' abilities	617	4,760	1,462	0,695	1,016
C6	Success of previous change efforts	617	4,276	1,54	0,535	0,823
C8	Change leaders as role models	617	4,911	1,518	0,694	1,054
C9	Honesty of change leadership's intentions	617	5,034	1,394	0,684	0,954
C10	Understanding of implications of change	617	5,081	1,533	0,682	1,046
C11	Consistency of change communications by leaders	617	4,953	1,433	0,686	0,984
C12	Positioning of change agents	617	4,822	1,471	0,640	0,942
D	**Inertia factors in organisational culture**					
D1	Extent to which experimentation is allowed	617	4,360	1,570	0,621	0,975
D2	Extent to which improvements can be suggested	617	5,099	1,433	0,634	0,908
D3	Encouragement for change-implementation suggestions	617	5,135	1,518	0,666	1,012
D4	Consideration for new ideas	617	4,971	1,459	0,697	1,017
D5	Reward for creative contributions	617	4,421	1,738	0,555	0,964
D7	Extent to which mistakes are allowed	617	4,486	1,476	0,518	0,764
D8	Encouragement of creative problem-solving methods	617	5,023	1,450	0,618	0,896
E	**Inertia factors in business composition**					
E1	Company size	617	4,773	1,343	0,596	0,800
E2	Flexibility of structure	617	4,682	1,473	0,652	0,961
E3	Flexibility of work systems	617	4,240	1,537	0,640	0,983
E4	Levels of decision-making	617	4,094	1,659	0,678	1,125
E5	Flexibility of job descriptions	617	4,553	1,562	0,512	0,800
E6	Independence of work teams	617	4,778	1,427	0,625	0,892
E7	Work-team composition	617	4,627	1,468	0,574	0,842
E8	Flexibility of work procedures	617	4,071	1,494	0,574	0,858
F	**Inertia factors in change-management practices**					
F1	Change agents ability to influence work force	617	5,216	1,332	0,563	0,750
F2	Realistic timing of change initiative	617	4,512	1,422	0,616	0,876
F3	Planning of change initiative	617	4,558	1,426	0,716	1,021
F4	Consideration of components of business	617	4,571	1,426	0,687	0,980
F5	Involvement by those affected by change	617	3,661	1,597	0,622	0,993
F6	Value of employee contributions	617	4,413	1,495	0,741	1,109
F7	Commitment to change initiative	617	4,329	1,375	0,726	0,998
F8	Visibility of short-term change results	617	4,122	1,408	0,655	0,922
F9	Ease in reverting back to old ways	617	4,859	1,579	0,431	0,680
F10	Progress feedback regarding change initiatives	617	4,371	1,554	0,708	1,101
F11	Employees' skills in managing change	617	4,177	1,431	0,779	1,115
F12	Change agents as role models	617	4,464	1,479	0,717	1,061
F13	Expectations regarding the change initiative	617	4,400	1,275	0,706	0,901
F14	Measurement of change progress	617	4,723	1,305	0,718	0,937
F15	Coordination of change interventions	617	4,517	1,322	0,748	0,988
G	**Inertia factors in change related systems**					
G1	Compensation systems supportive of change	617	4,209	1,449	0,620	0,899
G2	Reward for change	617	3,843	1,575	0,573	0,902
G3	Allocation of human resources for change initiative	617	3,890	1,459	0,669	0,976
G4	Allocation of financial resources for change initiative	617	4,152	1,475	0,532	0,785
G5	Representative involvement in change-systems management	617	4,473	1,394	0,710	0,990

Item	Item description	N	Item mean ($\bar{X}_g$)	Standard deviation (s_g)	Item-test correlation (r_{gx})	Item reliability index ($r_{gx}s_g$)
H	**Inertia factors in work-unit change orientation**					
H1	Encouragement to support change initiative	617	4,590	1,565	0,683	1,069
H4	Positive perception of change initiative	617	4,853	1,479	0,094	0,977
H5	Team members as change agents	617	4,089	1,888	0,478	0,903
H6	Skill of change agents	617	4,747	1,680	0,515	0,866
H7	Respect for change agents	617	4,592	1,423	0,580	0,825
H8	Availability of change-trauma counseling	617	3,671	1,823	0,547	0,997
I	**Inertia factors in job requirements**					
I1	Extent that job content changes	617	3,465	1,609	0,214	0,344
I2	Ease of making changes to job content	617	4,099	1,428	0,597	0,853
I3	Integration between existing and new job practices	617	4,284	1,349	0,596	0,805
I5	Training for new job requirements	617	4,472	1,539	0,552	0,849
I6	Excitement about new skills being acquired	617	4,699	1,351	0,650	0,877
I7	Response to changing job variety	617	4,737	1,321	0,641	0,847
I8	Potential development as result of change	617	5,183	1,247	0,644	0,804
I10	Mental capacity to make job changes	617	5,139	1,235	0,488	0,603
I11	Skill to manage teams through change	617	4,890	1,384	0,682	0,944
J	**Motivation for change as inertia factor**					
J1	Potential benefit of change as inspiration	617	4,788	1,381	0,704	0,972
J2	Extent to which people look forward to change	617	4,912	1,344	0,678	0,911
J3	Perception that change is long overdue	617	4,883	1,384	0,367	0,508
J4	Commitment to achieve change objectives	617	4,728	1,301	0,736	0,958
J5	Perception that business performance will improve	617	5,104	1,284	0,653	0,838
J6	Personal benefit thanks to change initiative	617	4,595	1,445	0,684	0,989
K	**Personal experience of change as inertia factor**					
K1	Probability of losing own jobs	617	4,580	1,495	0,529	0,790
K2	Effect of change on personal earnings	617	4,337	1,287	0,598	0,770
K3	Effect of change on personal status	617	4,551	1,262	0,643	0,812
K4	Belief in own ability to cope with change	617	4,788	1,188	0,652	0,775
K5	Open discussion of personal fears surrounding change	617	3,963	1,608	0,479	0,755
K6	Effect of change on power networks	617	4,036	1,372	0,517	0,709
K7	Effect on relationships with powerful individuals	617	4,428	1,299	0,688	0,893
L	**Emotional experience of change as inertia factor**					
L1	Perception of fairness of change initiative	617	4,587	1,326	0,695	0,921
L2	Resentment towards company because of change	617	4,194	1,407	0,542	0,762
L3	Perception that personal loyalty is considered	617	3,898	1,569	0,389	0,610
L4	Similarity between this and other unsuccessful efforts	617	4,373	1,497	0,590	0,883
L5	Rejection of change initiative	617	4,068	1,514	0,547	0,829
L6	Change viewed as stress factor	617	3,643	1,537	0,550	0,845
L7	Difficulty in understanding change	617	4,407	1,361	0,496	0,675
L8	Correlation between company and personal values	617	4,613	1,318	0,651	0,859
L9	Reaction towards change	617	4,596	1,394	0,735	1,024

- A lack of involvement in the formulation of the change strategy, the extent to which the change strategy is viewed as incomplete, difficulty to implement and understand.
- A lack of change leadership's vision, support, ability to manage change, credibility, experience in change efforts, integrity and the communication ability of change leaders.
- The organisational culture relevant to change, such as the extent to which experimentation, improvement, suggestions and new ideas is allowed and rewarded.
- A lack of effective change-management practices, such as the timing and planning of the change initiative, the extent to which people are involved, rewarded and communicated to, the continuous monitoring of change progress and the general coordination of various components of the change process.
- Business composition, such as company size, flexibility of structures, work procedures and job descriptions, as well as work-team composition, the extent to which work teams are empowered and the levels of decision-making.
- A lack of systems related to change, such as the allocation of different resources and the management of reward and compensation systems.
- People's orientation toward change, such as their perception of the change agents in their work units as being skilled and respected, and the extent to which they encourage and support one another during the change process.
- A lack of motivation, owing to the fact that people do not stand to derive any personal and business benefits for changing.
- People's personal experiences, needs and values pertaining to change, such as the impact that change will have on their earnings, status, relationships and networks, and the opportunity to discuss their fears around the changes.

It is therefore safe to say that the above dimensions are those that should be addressed in efforts to manage organisational inertia. The instrument confirms the views of various authors, and also succeeds in integrating the seemingly diverse contributions of a number of researchers in this field, such as those made by Bryant (1988); Connor and Lake (1988); Dalziel and Schoonover (1988); Diamond (1986); Eccles (1994); Fombrun

TABLE 8
ITEM STATISTICS FOR SCALE II

Item	Item description	N	Item mean ($\bar{X}_g$)	Standard deviation (s_g)	Item-test correlation (r_{gx})	Item reliability index ($r_{gx}s_g$)
	Inertia factors in change strategy					
A2	Purpose of change strategy	617	6,057	1,142	0,585	0,668
A3	Familiarity with change strategy	617	5,295	1,385	0,628	0,870
A4	Personal role in change-strategy implementation	617	5,196	1,538	0,664	1,022
A12	Implementation of change will deliver results	617	5,032	1,181	0,629	0,743
B1	Current legislation	617	5,648	1,248	0,642	0,800
B2	Influences in macro-economic environment	617	5,293	1,299	0,632	0,821
B3	Support by customer base	617	4,891	1,359	0,645	0,876
B4	View of other affiliated businesses	617	4,956	1,233	0,660	0,814
B5	Changes in socio-political environment	617	5,271	1,290	0,649	0,837
B6	Technological developments	617	5,475	1,378	0,660	0,909
B7	Latest market trends	617	5,640	1,246	0,713	0,889
D6	Alignment of proposed changes and current business values	617	5,183	1,229	0,662	0,814
I9	New challenges in jobs owing to change	617	5,567	1,116	0,571	0,637

No item scores were reflected in Scale II.

TABLE 9
INTER-CORRELATION OF SECOND-ORDER FACTORS

	FACTOR I	FACTOR II
Factor I	1,000	0,521
Factor II	0,521	1,000

(1992); Hammer and Stanton (1995); Harrison and Dawes (1994); Kelly and Amburgey (1991); McCarthy (1995); Michael (1981); Moerdyk and Fone (1986); Pasmore (1994); Robbins (1994); Schein (1992); Senge (1990) and Walters (1994). The latter integration perhaps constitutes the most important contributions of this study.

Three dimensions indicated in literature to be relevant to organisational inertia were excluded from this construct. These dimensions were knowledge of the change strategy, imposed personal demands and external forces for change.

One possible explanation for the above exclusion may be the fact that this study has indicated that inertia is not a result of external forces or strategic decisions made in a company. Inertia seems rather to stem from a more operational level within organizations. It is not insight into the change strategy itself, but the impact of the change strategy on individuals at an operational and personal level which ultimately affects organisational inertia.

A close scrutiny of Table 7 indicates that inertia develops as a result of management practices and the prevailing culture in the organisation. The culture, in this instance, can be describe in terms of the objective culture (size, structure, levels, etc.) and the subjective culture (i.e., how members experience the organisation). This links closely with the cautionary words of Hammer and Stanton (1995) and Herzog (1991) regarding the necessity effectively to manage human capital during change interventions. It also confirms the views of Beck and Linscott (1993); Kirkpatrick (1993); McCarthy (1995); Sadler (1995); Veldsman, (1993) and Want (1995), who all claim that a lack of attention to human processes may result in the failure of transformation interventions.

It can, therefore, be confirmed that external forces do not directly contribute to organisational inertia, but that they serve rather to trigger change. Internal forces, however, are the forces that tend to retard change. These findings make out a strong case that any effort to overcome the inertia within organisational systems should be focused on the human component of the business.

The factor "knowledge of change strategy, imposed personal demands and external forces for change" should, however, not be discarded in further organisational-change studies. Although they might not have a direct impact on organisational inertia, these are still components that should be explored in organisational-development initiatives and could be developed by further research.

In terms of the use of the Burke-Litwin Model in change interventions, the findings clearly indicate that the variables *management practices, change-related systems, work-unit climate, task requirements* and *individual experience of change* (these are variables labelled "transactional variables" by Burke-Litwin), constitute the forces with the most marked impact on organisational inertia. The implications of these findings are that future studies around organisational inertia could indeed make use of an ***amended*** Burke-Litwin Model with greater emphasis on the transactional factors. In addition it is suggested that a theoretical model for the measurement of organisational inertia should place more weight on transactional variables than on transformational variables. A proposed theoretical model for influencing factors in organisational inertia is held up as an example in Figure 4.

Based on the insight gained in this study, the latter model differs from the model portrayed in Figure 1. Figure 4 indicates the critical components that contribute to organisational

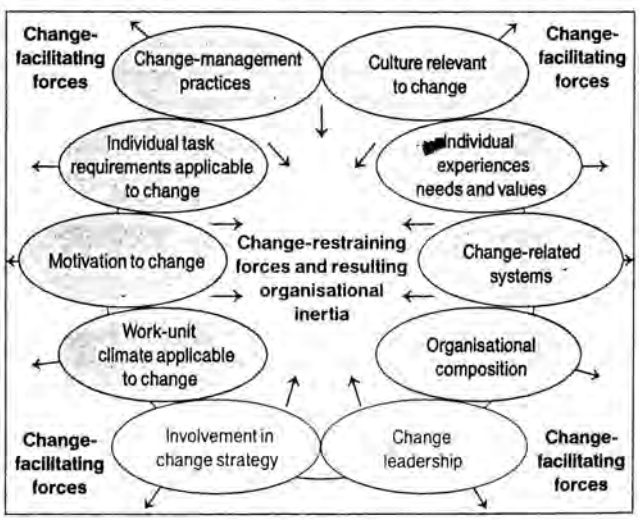

FIGURE 4
CONTRIBUTING FACTORS TO ORGANISATIONAL INERTIA

inertia. The components in the top part of the figure, which are a darker colour, are to be viewed as those components with a more marked impact on organisational inertia, whereas the components at the bottom of the figure indicate a lower weighting of importance. Figure 4 also reflects the duality of each component. Each of these components can be viewed either as a change-restraining or a change-facilitating force, depending on the unique characteristics embedded in each component within the organisation. The model in Figure 4, furthermore, excludes the external environment as a contributing factor, as confirmed by the findings of this study.

On a more pragmatic level, the results of this study suggest that organisational inertia should be managed through targeted interventions, with greater emphasis on the people processes and the supporting change systems. More specifically, these should be interventions in terms of which *people's individual experiences of change* could be assessed and managed. It is, therefore, proposed that the people-management component of change be considered the most critical part of any change intervention.

A possible limitation of the study may be the fact that the sample represented only five industries within the South African context. It may also hold true that the theoretical description of the concept may be further expanded, which could improve the accuracy of the measuring instrument.

In addition, it is proposed that further studies in this regard include the testing of the instrument in diverse environments. Any further study that will include the measurement of organisational inertia before and after specific interventions will prove very valuable to the domain of change management.

This research study has succeeded in grouping diverse perspectives on organisational inertia into a single logical factor that provides a holistic and integrated approach to organisational inertia. It has also highlighted the fact that the phenomenon of organisational inertia can be mitigated through improved people-management practices during change initiatives.

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