

ORGANISATIONAL CLIMATE MEASUREMENT – NEW AND EMERGING DIMENSIONS DURING A PERIOD OF TRANSFORMATION

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Abstract

Organisational climate measurements have been used by many organisations in the past to measure employees' experience of their work environment. Changes in the South African work environment such as new Acts, downsizing, mergers and globalisation are affecting employees' motivation and commitment. Organisations are now requesting instruments that incorporate the effects of the changing environment rather than the traditional climate measurements. The aim of this study was to validate an organisational climate questionnaire that was adapted and used during a phase of organisational and environmental change. The findings showed a number of new dimensions that can be used to measure organisational climate.

1 INTRODUCTION

The study of organisational climate has its roots in the work of Kurt Lewin in the late 1930's (Denison 1996; Lewin, Lippitt & White 1939; Schneider 1990). Lewin initiated the first exploit studies of psychological climate in the 1930's. Following on Lewins' work, other researchers attempted to build on climate theory and to describe how climate is established and maintained in organisations (Campbell & Pritchard 1976; Field & Abelson 1982; Wiley & Brooks 2000). Organisational psychologists have become increasingly interested in organisational climate because of the significant relationships exhibited between this construct and job satisfaction and job performance (Furnham & Gunter 1993).

Although organisational climate has been defined in many different ways, there seems to be consensus that it includes three behavioural levels, namely the individual, the interpersonal and the organisational (Field & Abelson 1982; Joyce & Slocum 1979; James & Jones 1974; Cilliers & Kossuth 2002).

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In the South African context employees' behaviour at the organisational level are influenced by continuous changes brought about by the Employment Equity Act and similar legislation, downsizing of organisations, mergers, globalization, re-engineering and outsourcing, all of which suddenly affect employee motivation and commitment (Martins 2002; Martins & von der Ohe 2002).

The Employment Equity Act and the Skills Development Act are used by the South African Government to speed up workplace reform and to achieve equality in the workforce. The focus of the Employment Equity Act is summarised as follows by Human et al. (1999):

- Promoting equal opportunity and fair treatment in employment through the elimination of unfair discrimination; and
- Implementing affirmative action measures to redress the disadvantages in employment experienced by designated groups, in order to ensure equitable representation in all occupational categories and levels in the workforce.

The implementation of these Acts together with transformation and organisational changes affect the organisational climate of organisations. New employees from previously disadvantaged race groups are being employed while existing employees experience uncertainty. According to Human et al. (1999), some organisations have superficially and half-heartedly brought in blacks in order to create the impression that they are doing something, without dispelling white fears or changing the culture of organisations.

These changes as well as employees' motivational levels are threatening organisations' profitability. These changes impact on the climate, structures, management styles, practices and leadership practices. Socio-political change in South Africa resulted in a drastic change of staff composition in many organisations. New laws required that previously disadvantaged individuals (including women, Blacks, Coloureds and Indians) be appointed in organisations (Grobler & Rothmann 2003).

It is difficult for employees to adapt to new expectations, relationships and work methods. Although various employee assistance and training programmes were implemented to support employees in the participating organisations, organisational climate interventions are necessary to address problem areas on organisational level.

South African organisations have used different organisational diagnostic instruments to determine employees' perceptions of the organisation's culture, climate and communication (Gerber 2003). Various international and South African diagnostic instruments have been used to measure organisational climate, however

these questionnaires did not portray dimensions of change as required by the participating organisations. The aim of this study is to validate an organisational climate questionnaire that has been used in 11 organisations and that was adapted and used during a phase of organisational and environmental change. The importance of this validation is that the adaptation of the questionnaire has been strongly influenced by the changes in the South African environment. The authors envisage that a number of new dimensions might emerge from this study that can be used in the future to measure organisational climate during a period of organisational or environmental change.

2 ORGANISATIONAL CLIMATE AND CULTURE

Before discussing climate in more detail, it is necessary to distinguish between the concepts of climate and culture. Schneider (2000: XIX-XX) discusses the rivalry between the researchers of climate and culture and summarizes his findings as follows:

“The two main strengths of the research and thinking on climate are (a) the strategic focus of climate research on identifiable organisational imperatives (e.g. safety, service) and (b) the measurement and statistical documentation of the degree to which climate is shared by organisational members.”

The two main strengths of the research and thinking on organisational culture are (a) relatively complete specification of the deep psychological attributes (values, beliefs, and meanings) that can be used to characterize culture and (b) a focus on the development or aetiology of culture over time, especially through socialization processes. As will become clear, the strengths of each can compensate for the weaknesses of the other.

According to Olivier (2002) the two concepts of “organisational climate” and “organisational culture” are related in that the former is a measure of the perceptions of individuals working in the organisation, of the organisation’s culture and their reaction to it.

Organisational climate is concerned with how employees perceive the characteristics of an organisation’s culture. In contrast to culture, which sets the boundaries of behaviour, climate directly influences behaviour within the organisation and with the organisation’s external customers. Climate deals with organisational characteristics which are perceived by individual employees, anything in the organisations which members interpret or attach meaning to in their attempt to make sense of the organisational environment (Govender, 1998). This reasoning by Govender is in line with the aims of climate measurement as requested by the participating organisations.

Various definitions of organisational climate exist. Taguiri (Furnham & Gunter 1993) defines it as follows: "Organisational climate is a relatively enduring quality of the internal environment of an organisation that (a) is experienced by its members, (b) influences their behaviour, and (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the organisation". Having reviewed a number of definitions of organisational climate, the authors view the following definitions from Litwin and Stringer (1968) and Taguiri (Furnham & Gunter 1993) to be in line with their research, namely that organisational climate is a set of measurable properties (dimensions) of the work environment that people who live and work in this environment perceive directly or indirectly and that are assumed to influence their motivation and behaviour.

Current measurement of organisational climate should focus on how employees perceive their work environment and how it affects their motivation and behaviour during organisational and environmental change.

3 ORGANISATIONAL CLIMATE DIMENSIONS

A major debate in organisational climate research concerns not so much how to measure climate, but rather what to measure. There are numerous measures of climate that disagree fundamentally over what organisational dimensions should be measured (Furnham & Gunter, 1993).

Kays and De Cotiis in Furnham and Gunter (1993) conducted a content analysis on dozens of studies. The results are summarised in table 1. Table 1 emphasizes the numerous dimensions that are used to measure organisational climate. Kays and De Cotiis also reviewed the literature and categorised various dimension labels under eight headings (table 2).

Cilliers and Kossuth (2002) summarized the research of a number of authors and concluded that organisational dimensions on the formal level are structure, policy, objectives, management practices, task specialisation, decision-making, standards and rewards. On the informal level, organisational climate refers to identity, employee needs, responsibility, interactive communication, information sharing, support, warmth and conflict handling.

Table 1: Psychological climate dimensions

Summary dimension	Dimension label as found in the literature	Summary dimension	Dimension label as found in the literature
Autonomy	Autonomy Closeness of supervision (reversed) Individual responsibility Leader's initiation of structure (reversed)	Support	Support Leader's consideration Leader work facilitation Leader's psychological distance Hierarchical influence Management awareness
Cohesion	Cohesiveness Conflict (reversed) Esprit Peer relations Status polarization (reversed) Universalism Work group co-operation, friendliness and warmth Sociability	Recognition	Recognition and feedback Opportunities for growth and advancement Reward/punishment relationship Rewards
Trust	Intimacy vs. aloofness Leader trust Management insensitivity (reversed) Managerial trust Openness	Fairness	Fairness and objectivity of the reward system Promotion clarity Policy clarity Policy clarity and efficiency of structure Altruism Egalitarianism

Summary dimension	Dimension label as found in the literature	Summary dimension	Dimension label as found in the literature
Pressure	Job pressure Role overload, role conflict, role ambiguity Time span orientation Achievement emphasis Job standards Measuring of results Production emphasis	Innovation	Innovation Organisational flexibility Impulsive Security vs. risk Challenge vs. risk Future orientation

In the South African context, Coetzee (1986), Tustin (1993) and Martins and Martins (2001) have developed questionnaires that focus on the following dimensions:

Coetzee (1986):

- organisational climate (positive or negative perception of work environment)
- work processes (effective group functioning)
- task processes (various actions and characteristics which influence work activities)
- supervisory leadership (actions by the immediate supervisor that supports or hinders employees in performing their duties)
- satisfaction (the influence of the organisation, workgroups and immediate supervisors on employees)
- quality of work life (employees' general satisfaction)

Tustin (1993):

- interpersonal communication (the clearness of upward and downward communication and the relationship between subordinate and supervisor)
- warmth and support (the feeling that good camaraderie and respect for each other prevails in the work group)
- risk and challenge (the feeling that risks and challenges exist in the work and

- that knowledge and abilities are utilized and developed)
- promotion and remuneration (the feeling that promotion depends on good performance and the fairness of the remuneration policy)
- identification (the feeling that an employee belongs to an organisation and is loyal to the organisation)
- standards (the perceived importance of implicit goals and performance standards and the emphasis placed on doing a good job)
- recognition and reward (the feeling that recognition and reward are given in return for good performance)
- participation (the feeling that the supervisor has confidence in the subordinate's ability to participate in decision-making)
- training and development (the feeling that training and development takes place and that it achieves results)
- responsibility (the feeling of being one's own boss and not having to have one's decisions double checked)

Martins and Martins (2001):

- mission and goals (employees' perception of and satisfaction with the organisation's strategic focus and departmental mission and goals)
- technology (employees satisfaction with the support systems)
- task systems (various activities and actions that influence work activities)
- management processes (managerial functions that influence employees positively/negatively such as communication, control, planning, co-ordination and decision-making)
- interpersonal and social processes (the perceptions of rewards, relationships, respect and support that prevail within a department or team)
- external environment (employees' perception of the organisation's readiness to deal with external demands)
- employment equity (the implementation and fairness of employment equity)
- job satisfaction (employees' general satisfaction)
- factors of importance (why employees come to the company and factors that will influence their decisions to stay with the company)

A comparison of these three South African based questionnaires with the work of Furnham and Gunter (1993) summarized in table 2 and Cilliers and Kossuth's (2002) reveals some similarities, but also some apparent differences, which might be the result of organisation specific needs in the South African environment. In the context of this study the questionnaire as originally developed by Martins and Martins (2001) and adapted according to the needs of the participating organisations, is analysed and discussed.

Table 2: Definition of each of the eight dimensions of the universe of psychological climate perceptions

Dimension name	Definition
Autonomy	The perception of self-determination with respect to work procedures, goals and priorities.
Cohesion	The perception of togetherness or sharing within the organisation setting, including the willingness of members to provide material aid.
Trust	The perception of freedom to communicate openly with members at higher organisational levels about sensitive or personal issues with the expectation that the integrity of such communications will not be violated.
Pressure	The perception of time demands with respect to task completion and performance standards.
Support	The perception of tolerance of member behaviour by superiors, including the willingness to let members learn from their mistakes without fear of reprisal.
Recognition	The perception that members' contributions to the organisation are acknowledged.
Fairness	The perception that organisational practices are equitable and non-arbitrary or capricious.
Innovation	The perception that change and creativity are encouraged, including risk taking into new areas or areas where the member has little or no prior experience.

4 METHODOLOGY

4.1 Participants

Nine thousand four hundred and thirty-eight (9438) employees from a listed retail organisation consisting of seven subsidiary companies with branches all over South Africa participated in the survey. This convenience sample represents 62% of the total population of employees. The respondents represented all job levels in the organisation, senior management (9,9%), middle management and professionals (10,8%), junior management and technical (13,3%), semi-skilled (41,5%) and limited skilled (5,4%). Most respondents (35,9%) were between 25 and 34 years of age, 45,0% had one year but less than five years' service, 57,8% were female while 25,2% were between 35 and 44 years of age.

4.2 Adapting the measuring instrument

Martins and Martins' (2001) questionnaire was used as the basis, but additional dimensions and statements were added after conducting focus groups and interviews with key stakeholders. The following dimensions, namely leadership style, diversity, organisational values and the fairness of policies and procedures were added after a content analysis. These dimensions were perceived as important to measure the changing work environment of the participating organisation. The final questionnaire consists of 223 questions grouped into 14 dimensions. The questions are answered on a five-point interval scale, the lowest anchor signifying strongly disagree and the highest strongly agree.

4.3 Procedure

The questionnaire was distributed to all branches for completion. A covering letter explaining the purpose of the survey was included with the questionnaire. A contact person in each branch assisted with the distribution and collection of the questionnaires. The respondents were assured that the data would be kept confidential and anonymous.

4.4 Statistical analysis

In the organisational literature and in role-based research, factor analysis is frequently used to assess whether instruments measure substantive constructs (Cortina 1993; Drasgow & Miller 1982). The empirical objective of this study was to determine whether independent factors can be identified and factor analysis as a statistical technique was therefore employed. Secondly, the reliability of each factor was determined by means of an item analysis (Cronbachs Alpha).

The principal components analysis (PCA) was done with the aim of identifying a minimal set of factors that accounted for a major portion of the total variance of the original items. The SPSS software program was used for this purpose. The latent root criterion (Hair, Anderson, Tatham & Black, 1995) which specifies that all factors with eigenvalues of 1,00 or greater should be retained, was used. Initial factor extraction was done according to PCA, and the intercorrelation matrix was rotated according to the varimax method.

5 RESULTS

The varimax rotation isolated 13 factors which accounted for 49,5% of the variance (table 3).

Table 3: Factor Analysis – Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	63,997	28,698	28,698	20,615	9,244	9,244
2	9,649	4,327	33,025	14,370	6,444	15,688
3	6,283	2,817	35,843	11,831	5,305	20,993
4	4,808	2,156	37,999	11,168	5,008	26,001
5	4,513	2,024	40,023	8,130	3,646	29,647
6	3,447	1,546	41,568	7,456	3,343	32,991
7	3,186	1,429	42,997	6,873	3,082	36,072
8	2,902	1,302	44,298	6,516	2,922	38,994
9	2,703	1,212	45,510	5,963	2,674	41,668
10	2,415	1,083	46,593	5,249	2,354	44,022
11	2,303	1,033	47,626	4,790	2,148	46,170
12	2,119	950	48,576	4,246	1,904	48,074
13	2,087	936	49,512	3,207	1,438	49,512
Extraction Method: Principal Component Analysis						

The interpretation of the factor matrix showed that only seven items had factor loadings lower than 0,30. It was decided to keep these items in the item analysis and if there was another low loading to exclude them from the measuring instrument. The internal consistency of the 13 dimensions varies from 0,8566 to 0,9723 (table 4).

Table 4: Reliability of the climate dimensions

Climate Dimension	Cronbach's Alpha			
	Initial re- liability co- efficients	Number of items	Final re- liability co- efficients	Number of items
1 Management and leadership style	9,723	44	9,723	44
2 Policies and procedures	9,594	30	9,594	30
3 Attracting and retaining talent	9,413	24	9,413	24
4 Fairness of organisational practices	9,466	28	9,468	27
5 Training and development	9,285	10	9,285	10
6 Organisational values	9,280	18	9,284	17
7 Recognition and rewards	8,989	10	8,989	10
8 Work environment	8,847	15	8,847	15
9 Teamwork	8,757	7	8,780	6
10 Strategic focus	8,706	13	8,706	13
11 Performance management	8,639	7	8,659	6
12 Employment equity	8,533	10	8,533	10
13 Discrimination re: promotions	8,537	8	8,566	7
Total number of items	-	223	-	219

A second order factor analysis was conducted for factors 1, 2, 3 and 4. The latent criterion, which specifies that all factors with eigenvalues of 1,00 or greater should be retained, was again used. The factor extraction was done according to the PCA, and the co-variance matrix was rotated according to the varimax method. The factor loadings of the four factors are presented in tables 5 to 8. The variances explained for factor 1 is 61,531, factor 2 is 60,727, factor 3 is 63,643 and for factor 4 is 58,807. For the second order factor analysis it was decided to include all the items of factor 4 and to decide after the factor and item analysis if any items should be excluded from the final item list. The results of the item analyses are portrayed in table 9.

Table 5: Total Variance Explained for factor 1

Component		Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %
Raw	1	28,437	45,611	45,611
	2	3,032	4,863	50,474
	3	2,123	3,405	53,878
	4	2,047	3,283	57,161
	5	1,606	2,577	59,738
	6	1,501	2,407	62,145
Rescaled	1	20,050	45,569	45,569
	2	2,111	4,798	50,367
	3	1,529	3,474	53,841
	4	1,305	2,967	56,808
	5	1,104	2,509	59,317
	6	974	2,214	61,531

Table 6: Total Variance Explained for factor 2

Component		Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %
Raw	1	8,063	20,971	50,971
	2	7,120	18,520	39,491
	3	4,549	11,832	51,323
	4	4,013	10,439	61,762
Rescaled	1	6,158	20,528	20,528
	2	6,005	20,017	40,545
	3	3,590	11,965	52,510
	4	2,465	8,216	60,727

Table 7: Total variance explained for factor 3

	Component	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Squared Loadings Total	% of Variance	Cumulative %
Raw	1	15,654	42,672	42,672	7,176	19,560	19,560
	2	2,454	6,690	49,362	4,791	13,059	32,619
	3	2,149	5,859	55,221	4,385	11,952	44,571
	4	1,769	4,822	60,043	3,732	10,174	54,745
	5	1,669	4,549	64,592	3,612	9,847	64,592
Re-scaled	1	10,110	42,127	42,127	4,538	18,907	18,907
	2	1,592	6,635	48,762	3,159	13,164	32,070
	3	1,310	5,460	54,222	2,862	11,927	43,997
	4	1,180	4,918	59,140	2,671	11,128	55,125
	5	1,081	4,503	63,643	2,044	8,518	63,643

Table 8: Total variance explained for factor 4

	Component	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Squared Loadings Total	% of Variance	Cumulative %
Raw	1	15,237	40,964	40,964	5,514	14,824	14,824
	2	2,049	5,509	46,473	4,293	11,543	26,367
	3	1,951	5,246	51,719	4,576	12,304	38,670
	4	1,501	4,036	55,754	4,271	11,481	50,152
	5	1,352	3,634	59,388	3,436	9,237	59,388
Re-scaled	1	11,434	40,835	40,835	4,035	14,409	14,409
	2	1,553	5,545	46,380	3,312	11,827	26,237
	3	1,436	5,127	51,507	3,281	11,718	37,954
	4	1,085	3,874	55,380	3,204	11,443	49,397
	5	959	3,427	58,807	2,635	9,410	58,807

Table 9: Results of the item analysis for the second-order factors 1 to 4

Factor	Sub-factors	No of questions	Cronbach's Alpha
Management and leadership style (Factor 1)	● Leadership style	12	0,9424
	● Trust	12	0,9382
	● Role of senior management	5	0,8307
	● Coaching	5	0,8862
	● Two way communication	5	0,8182
	● Means to achieve objectives	4	0,7691
Policies and Procedures (Factor 2)	● Policies and procedures 1	10	0,9340
	● Policies and procedures 2	10	0,9263
	● Communication of policies and procedures 1	7	0,8384
	● Communication of policies and procedures 2	3	0,8606
Attracting and retaining talent (Factor 3)	● Retaining	9	0,9016
	● Attracting (managerial role)	5	0,8265
	● Attracting (general)	4	0,7291
	● Work/life balance	3	0,7385
	● Attracting (benefits)		
Fairness of organisational practices (Factor 4)	● Equality	10	0,9007
	● Discipline and grievances	6	0,8117
	● Affirmative action	4	0,8185
	● Race groups	4	0,8335
	● Gender equity	4	0,7276

5.1 Naming of factors

Conceptual naming of the 13 factors after detail inspection of the individual items produced the names as displayed in table 4. The purpose is to attach a dimension name to each factor to make it understandable and identifiable. Each dimension will be discussed briefly:

- Management and leadership style: This dimension includes managerial functions such as coaching, the role of senior management, means to achieve objectives and information sharing. Important concepts that were also grouped under this dimension are trust and leadership style.

- Policies and procedures: This dimension focuses on the fairness of a number of policies and procedures such as recruitment, selection, promotions, succession planning, HIV/AIDS and retention. All these policies and procedures can influence the perception of fairness and equality in an organisation.
- Attracting and retaining talent: This factor grouped all aspects relating to the reasons why people join a company and the reasons why employees stay with a company. Aspects such as equal opportunities, management quality, job security, advancement opportunities and work/life balance are included.
- Fairness of organisational practices: The factor analysis identified 27 items that focus on different issues that may be perceived as fair/unfair in an organisation. Issues such as equality, gender equity, racism, affirmative action, discipline and grievances were grouped under this dimension.
- Training and development: This dimension focuses on elements of training and development such as providing training programs, career development and the application of training.
- Organisational values: The factor analysis identified 17 values or value-related items that were included in this dimension.
- Work environment: This dimension focuses on working conditions and the set-up of the work environment that may influence an employee's job satisfaction or effectiveness.
- Recognition and rewards: This dimension focuses on rewards for and recognition of good performance.
- Teamwork: The six items included in this dimension focus on aspects that impact on effective teamwork such as team trust, co-operation and motivation.
- Strategic focus: This dimension focuses on the overall satisfaction with the organisational vision and mission and their alignment with departmental and individual objectives.
- Performance management: The items included in this dimension measure satisfaction with all aspects of performance management such as the performance agreement, an understanding of the process of, and training in performance management.
- Employment equity: The dimension focuses on the expectations and implementation of employment and equity and the processes that are needed to support it.

- Discrimination re: promotions: The factor analysis identified seven items that focus on discrimination relating to promotions of the different race, gender, disability and age groups.

6 DISCUSSION

The results obtained in the present study still support many of the typical dimensions measured in traditional climate surveys such as training and development, organisational values, recognition and rewards, team work, strategic focus and performance management. However, it appears that the continuous changes in South Africa and the implementation of new legislation have necessitated the introduction of some new dimensions that have to be considered in the measurement of climate.

It appears that the additional dimensions that were postulated from the questionnaire focus on typical employment equity and discriminatory practices for instance fairness of organisational practices, employment equity and discrimination regarding promotions.

The second-order factor analysis of factor 4 (fairness of organisational practices) focuses on many of the core aspects of the Employment Equity Act, namely equity, affirmative action, gender equity and the impact of discipline and grievances. Factor 4 is supported by factors 12 and 13 that focus on the knowledge of and implementation of employment equity in an organisation.

It is also interesting to note that the impact of leadership and trust have emerged as important components of the management and leadership style dimension. Van Rooyen (2000) emphasized the importance of leadership during the process of change in that leadership sets the stage for change in the first place. An important dimension that focuses on attracting and retaining talent creates the balance between superficial appointments and the retention of talented employees. This dimension also emphasizes the important role of work/life balance for today's worker.

The list of dimensions (table 4) still incorporates the typical climate dimensions as previously mentioned. It appears from the study that during an intense phase of change and transformation it is also important to adapt organisational measuring instruments such as the climate questionnaire to reflect and measure current issues and focuses (fairness of organisational practices, employment equity and discrimination regarding promotions).

7 CONCLUSION AND RECOMMENDATIONS

This study emphasises the importance of dimensions relating to the changing world of work in South Africa, such as employment equity, attracting and retaining employees, leadership style, trust, coaching and the supporting roles of communication, means-to-achieve objectives and policies and procedures.

The organisational climate questionnaire in its adapted form can be used to assess organisational climate in a changing environment. The aim of the study namely to validate an organisational climate questionnaire was achieved. The final questionnaire now consists of thirteen dimensions with high reliability that can be used to assess organisational climate. The second order factor analysis identified important sub-dimensions (table 9) that can assist organisations to measure and plan future interventions in areas such as leadership, trust, role of senior management, coaching, two-way communication, means to achieve objectives (factor 1), policies and procedures, communication of policies and procedures (factor 2), attracting and retaining talent and work/life balance (factor 3), equality, discipline and grievances, affirmative action, race groups and gender equity (factor 4).

The adapted organisational climate questionnaire should be used in organisational climate studies when the results should also reflect the changing South African environment. The results of the questionnaire could be used to plan organisational development interventions. Although this study was conducted in seven organisations, further research in this regard is necessary to determine the sustainability of the 13 climate dimensions.

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