

# **Analysis of behavior directed towards changing the innovation agents. Case study of the Canary Islands**

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**Abstract:** In 2005 the Directorate General for Industrial Development and Technological Innovation of the Canary Islands proceeded to carry out a project to measure the behavioral skills of various government agencies and companies in the Canary Islands in order to prepare a White Paper to assess the most effective measures for the stimulation of innovation in this autonomous community and to facilitate the objectives of public subsidies. This paper shows a portion of the work performed comparing the activity oriented towards innovation and the one aimed at sustaining the status quo of the organizations in the sample.

**Key words:** Innovation, assessment, leadership, change management, behavioral skills

## **1.1 The assessment tool**

The Directorate General established the following criteria for the assessment tool: the tool should identify behavioral areas focussing on innovation and it should also produce a map of the behaviours to drive the change towards innovation in the autonomous community.

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### ***1.1.1 The Kotze model: Momentum CPI***

It is obvious that everything an organization does is intended to make it grow, developing new business models, entering new markets, etc., and maintain it or sustain it doing all the activities related to business administration, among other, delivering the work on time according to schedule and quality standards. Thus, the energy that the company staff shows directed towards the growth of the business, increases the company's value, while that which is used in its support, fulfilling the duty on a day-to-day basis, ensures up-to-date value. Those behaviours orientated towards the company growth are defined by Kotze (2006) as *accelerating behaviours*, while those directed towards maintaining the status quo, are classified as *sustaining behaviours*. However, in a company the individuals' behaviours are not only directed to maintaining the business and making it grow. There is also another category of behaviour that acts in the opposite sense diminishing the business value due to its negative effect on cooperation and compromise. These behaviors are expressions of the pressure at work, stress, frustration, fear of the consequences of decisions and confrontation with other individuals. These other behaviors were called by Kotze *blocking behavior*. Therefore, the model is based on three categories of behavior that can be easily observed. In addition, these categories also correspond to the tripartite structure of the human being (MacLean, 1990), the cognitive, volitional and emotional (Greenberg and Paivio, 1997) which correspond also to the three parts of the human brain structure.

In this way, the accelerating behavior responds to a cognitive process, since only through thinking it is possible to set a direction for change and fix a goal. Similarly, the supporting behaviour is a volitional process, because this type of activity is needed to keep things running. Finally, the blocking behavior is the result of human beings emotions. Therefore, the classification of behavior that an organisation shows, according to the Kotze model, not only responds to a clearly observable reality, but also to the functional structure of man. For this reason, the pillars on which the model is based represent by themselves an organization's assessment criterion because they identify cognitive, emotional and volitional behavioral perspectives, which leads in our case to the identification of the behaviors that promote innovation and change, among others. Kotze (2006), states that accelerating behaviors focuses on *where to go*, on change, on how to do things differently and challenge the status quo, while sustaining behaviours are orientated toward maintaining the efficiency of the entire system. Finally, blocking behaviours are, in almost all cases, reactions to external forces, threats, frustrations, stress, anxiety, uncertainty, etc. In turn, each category of behaviors can be divided into three sub-categories since behaviors are directed towards action (the volitional), towards individuals (the emotional-relational) or towards the system, represented by the cognitive aspect, because trying to perceive everything that constitutes a system is made by thinking. Thus the Kotze model identifies the behavior that an individual or group shows in their jobs spread across nine categories, as shown in Figure 1. This is the result of crossing accelerating, sustaining and blocking behaviour styles with those directed towards action, people and system.

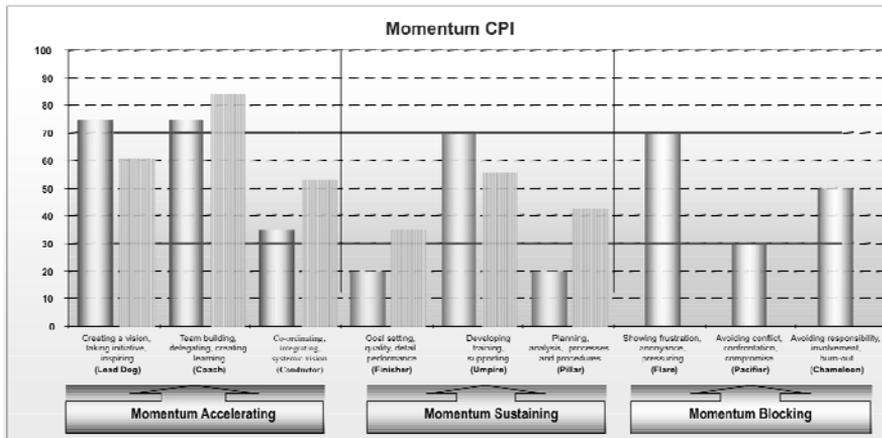


Fig. 1 Momentum CPI shows an individual or team behaviours balance

### 1.1.2 Framework

Although the original work contains all the information provided by the tool, in our case we will use only the one concerned with the innovation-oriented, accelerating behaviors and those which are used in performing the everyday tasks, the sustaining behaviors. Only some outputs have been used as a source of information for interpreting the results. While Momentum CPI provides information on specific behaviors, we show only the results from the bars arising from the comparison between the frequency with which an individual or group shows the behaviors that the M-CPI questionnaire identifies, with those corresponding to two thousand Anglo-Saxon individuals registered in a database property of Momentum CPI.

## 1.2 Description of the nine behaviors set<sup>2</sup>

Momentum CPI identifies and measures the behaviors showed by an individual or group in carrying out their work. As behaviors are dependent on the moment and circumstances, Kotze encompassed the nine behaviours set into three categories that are called Momentum Accelerating behaviour, Momentum Sustaining behaviour and Momentum Blocking behaviour as shown in Figure 1.

<sup>2</sup> For more information see “El éxito sostenible a través del error”. Díaz de Santos, Eds.

### 1.2.1 Momentum Accelerating behaviour

**Table 1**

Behaviors	Action-oriented	People-oriented	System-oriented
<b>Momentum Accelerating</b>	Creating a vision, taking initiative, inspiring <b>(Lead Dog)</b>	Team building, delegating, creating learning <b>(Coach)</b>	Co-ordinating, integrating, systemic vision, creating market <b>(Conductor)</b>

### 1.2.2 Momentum Sustaining behaviour

**Table 2**

Behaviours	Action-oriented	People-oriented	System-oriented
<b>Momentum Sustaining</b>	Goal setting, quality, detail performance <b>(Finisher)</b>	Developing training, supporting <b>(Umpire)</b>	Planning, analysis, processes and procedures <b>(Pillar)</b>

### 1.2.3 Momentum Blocking behaviour

**Table 3**

Behaviours	Action-oriented	People-oriented	System-oriented
<b>Momentum Blocking</b>	Showing frustration, annoyance, pressuring <b>(Flare)</b>	Avoiding conflict, confrontation, compromise <b>(Pacifier)</b>	Avoiding responsibility, involvement, burn-out <b>(Chameleon)</b>

## 1.3 Momentum CPI Effectiveness

The effectiveness tool is indicated by its index of reliability and validity<sup>3</sup>.

<sup>3</sup> Momentum CPI has a validity index, (accuracy in the measurement), of 0.93 and its reliability index (variation results in a short time) of 0.992. Evaluation by the London Business School of Economics.

## 1.4 Change direction

Momentum CPI not only identifies those behaviors that the organization shows, but also those that are the most effective in achieving the objectives, charting a direction of change, meeting the second criterion required by the project. In Figure 1, the first three pairs of columns show the difference between what is done, (left bar) and what should be done, (right bar) to be more effective about innovation and change the Momentum Accelerating. The second three pairs of bars show the same comparison but referred to the Momentum Sustaining. Blocking behaviors have no place in the set of ideal behaviors.

## 1.5 Sample identification

Due to the project requirements we compared the results of measurements made in enterprises, of business leaders and in the innovation agencies in the autonomous community of the Canary Islands. Participating in the project were 156 individuals distributed as follows:

- 10 Canary Island enterprises: 5 in Tenerife (46 individuals) and 5 in Gran Canarias (44 individuals).
- 25 SME managers: 14 from Tenerife and 11 from Gran Canaria.
- 6 Public innovation agencies
  - 3 Institutions from Tenerife (17 individuals)
    - ITC. Canary Island Institute of Technology (8 individuals)
    - IUBO. Bio-organic Institute (4 individuals)
    - OTRI. Innovation Results Transfer Office of La Laguna University (Tenerife, 5 individuals)
  - 3 Institutions from Gran Canaria (24 individuals)
    - General Directorate for Industrial Development and Innovation (7 individuals)
    - FULP. University Foundation of Las Palmas (11 individuals)
    - IUMA. Institute of Microelectronics (6 individuals)

## 1.6 Results

**Table 4**

GC Enterprises	Accelerating	Sustaining	Blocking
Score	43.2/53.6 <sup>4</sup>	42.6/46.4	14.2

<sup>4</sup> 43.2 real score/53.6 ideal score. The same format is used for the remaining table data.

Tf enterprises	Accelerating	Sustaining	Blocking
Score	43.6/55.4	41.8/44.6	14.6
Manager directors GC	Accelerating	Sustaining	Blocking
Score	34/30	33/70	33
Manager directors Tf	Accelerating	Sustaining	Blocking
Score	30/35	30/65	40
Tf Institutions	Accelerating	Sustaining	Blocking
Score	33/43	35/57	32
GC Institutions	Accelerating	Sustaining	Blocking
Score	32/34	32/66	37
The whole sample	Accelerating	Sustaining	Blocking
Behaviours	30/37	35/63	35

**Table 5**

GC Enterprises	D (1) <sup>5</sup>	C (2)	C (3)	F (4)	U (5)	P (6)	F (7)	P (8)	Ch (9)
Real score	52	49	27	42	48	56	46	61	46
Ideal score	35	47	65	51	55	73			

Tf Enterprises	D	C	Co	F	U	P	F	P	C
Real score	53	47	30	42	49	39	54	60	51
Ideal score	37	47	57	37	69	67			

Manager directors GC	D	C	Co	F	U	P	F	P	C
Real score	50	75	45	50	65	70	45	85	50
Ideal score	40	75	45	50	55	85			
Manager directors Tf	D	C	Co	F	U	P	F	P	C
Real score	50	55	40	35	65	65	50	80	60
Ideal score	45	50	70	55	70	80			

<sup>5</sup> The number in parenthesis is the bar number used in the Data Analysis. Each letter corresponds to each category of behavior according to Figure 1.

Tf	D	C	Co	F	U	P	F	P	C
Institutions									
Real score	55	70	45	47	67	82	47	62	50
Ideal score	32	52	80	47	48	88			
GC	D	C	Co	F	U	P	F	P	C
Institutions									
Real score	53	68	43/	43/	57/	58	47	80	63
Ideal score	37	58	60	42	62	/			
						72			
The sample	D	C	Co	F	U	P	F	P	C
Real score	55/	65/	45/	45/	65/	70	50	75	60
Ideal score	40	55	70	50	60	/			
						85			

## 1.6 Data analysis

- Bar 1:** There is a very low level of initiative and of vision setting, essential elements to create enabling environments for innovation. (Maximum score 55) (Bass, 1990; Kotter, 1990). **Bar 2:** Apparently the participants showed a high degree of orientation towards team building and delegation; however, this information together with the corresponding to bar 8 assumes an orientation to create a non-hostile networking to avoid conflict. **Bar 3:** In all cases the orientation towards the integration of processes along the value chain, benchmarking, production models and exceeds the market expectations, is the lowest of all orientations in the sample (Maximum score 45). **Bar 4:** Goal and quality task orientation is the second lowest in the whole group (Maximum score 50). **Bars 5 and 6:** The group shows a high orientation towards supporting people and observation of procedures. Focus to which the sample gives the utmost importance. **Bar 7:** The information shows a moderate level of confrontation when things do not go according to the standards. Apparently this behavior could be positive but according to the information from bar 8, individuals tend not to deal with the problems to avoid confrontation and conflict. Finally it is noted that the sample for company manager directors shows that they are highly avoidant of confrontation if this causes conflict (scores on 80 and 85 points, bar 8), which coupled with the fact that they may improve their effectiveness showing less initiative (bar 1, Figure 2), shows a lack of integration of functional areas and of the planning needed (bar 2), which causes a loss of attention to the objectives, (bar 5), meeting market expectations and therefore a greater tendency towards crisis administration management, stress and poor time management, resulting in the appearance of bars 7, 8 and 9. The paradox occurs when these managers believe that conflict avoiding is positive when

in fact adopting that blocking behaviour generates blocking behaviours in their employees as well (Goleman et al. 2001).

## 1.7 Conclusion

- Results show a scenario where change orientation, creativity and innovation are very precarious. Lack of planning and the alignment of the functional area processes, create a work climate of unease that lead to avoid the common commitment of all individuals with goals. This climate of unease reflects, on the other hand, the low degree of emotional intelligence of organizations and how it adversely affects the exercise of the necessary leadership for change (Piel, 2008).
- As a final conclusion, the DG for Industrial Development and Innovation made the decision not to invest anymore in promoting innovative initiatives, developing new rules aimed at subsidizing an organizational change that would generate an enterprises scenario where innovation could take place and thus ensuring the effectiveness of public investment.

## 1.8 References

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