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DELPHI QUESTIONNAIRE 2º

The objective of the present questionnaire is to evaluate a preliminary model of competitive intelligence – CI measurement, (attached model).

In our model of CI measurement we establish four dimensions which we believe should be considered in a measurement process: 1) *Information; 2) Knowledge; 3) Intelligence; 4) Organizational Transformation.*

Information Dimension: the first step to approach CI measurement in the organization is the information process. It's important that the decision maker knows the organization's needs, as well as the best techniques for the information process. **This process includes the gathering, the processing and the analysis of information which help know the competitive advantage of the organization and support the decision- making.** In this dimension the perspective is that more than the decision maker knowing the organization's needs, what is truly important is that the decision maker has an idea of organization's information needs and he/she is available to receive support in their fulfilment.

Knowledge Dimension: in order for the information to have any importance as support for the decision, it should be transformed into knowledge. **This process of transformation involves individual learning (of the decision maker) and collective (of the CI team) and includes activities such as experimentation, analysis and synthesis of information, interaction, collaboration, and negotiation**. The construction of knowledge is associated to action and interaction.

Intelligence Dimension: in our study we associate intelligence with the ability of learning. In the intelligence dimension in our model, we include the necessary

mechanisms to support and encourage **continuous learning of the individuals and of the CI groups.** We consider that learning alone shows behavioural changing with sophisticated reasoning.

Organizational Transformation Dimension: it embodies the aspects related with the generalized changing of the organization in the sense of better satisfying the needs and preference of its current or potential customers. Reaching that stage in an **organization means being in a process of organizational maturation with returns and earnings that will go beyond the financial**, but reach a point of unreachable returns and profits which free it from more immediate preoccupations, as for example the costs.

The American Airline provides an illustrative case to help understanding the processes described above. Comac (2007) presents the case and shows the important role played by Competitive Intelligence (CI) in solving problems and leveraging organizational learning about competitive issues. The CI process implemented in the American Airlines helped the organization achieving two goals: 1) to acquire competitive information and 2) to improve the poor financial situation of the organization through the organizational learning that occurred as a consequence of the implemented CI process.

The American Airlines case is mentioned here because it exemplifies some of the approaches to the dimensions for the CI process we advance in our work:

Dimension 1: Information

> *The gathering of information.* **The organization felt the need to gather information on every aspect of the business and departments.** Errors were found and this started the need for correct them without changing work procedures and norms, or policies and organizational goals – single-loop learning.

Dimension 2: Knowledge

> *The CI team investigated the traditional airlines carriers* – American's historical competitors – *and the low-cost carriers*. This investigation was performed in an open and direct way and the company offered to exchange organizational and operational information with the investigated companies for mutual benefit. To perform the investigation, American formed a Joint Leadership Team (JLT) consisting of the core group of union and management leaders who were tasked

with leading the cultural and technical changes for the American. This was the group that contacted and visited the others airlines. **The team of CI contacted several organizations with the same interests in sharing the best practices. This team had as first task to propose the cultural and technical changes of the organization.** This initiative demonstrates a concern for Organizational Knowledge that is constructed as a result of the CI process – double-loop learning.

Dimensions 2 and 3: Knowledge and Intelligence

The vital importance of the "project's success was the competitive intelligence team's undertaking this effort with an open mind and a healthy respect for the firms they examined". It is also important to highlight the attitude of the CI team and others involved in the project that admited with threshold that "didn't have all the answers". **By performing a detailed analysis of all gathered information and constructed knowledge on competitors, American Airlines was able to identify best and worst practices that supported decisions on how to improve in-house practices and how to solve problems. "The competitive intelligence team learned new lessons from all these groups, and their learning was enhanced by the *open-mindedness* they brought to this project.** No piece of learning was considered insignificant" (pp.10). We acknowledge in these behaviors and mindsets the elements of Organizational Intelligence, the organizational ability to learn from experience which is directly related with double-loop learning.

Dimension 4: Organizational Transformational

"The mandate from American's management was to observe, learn, and change – and where appropriate, to create dramatic change". The strategic goal of American Airlines' was to transform itself into a world class carrier in order to generate profits. The organization "applied psychological as well as mechanical lessons. An example was the 'showcase' approach used with some of the changes to educate and motivate people outside that specific area". This tactic helped to energize people to develop dramatic improvements in their own areas. The American Airline's now has a competitive team in Europe examining these same issues in detail, and following the same investigative approach that achieved such notable success in the United States. The future plans include

repeating the same process in the Asia and in the Latin America. The learning process continues adopted by American calls our attention to the obtained results and shows what CI can really do for an organization as long as the organization is opened to the necessary changes. **It is possible to acknowledge the organizational maturation and transformation aiming both the profits and the transformation of practices and culture.** This can related with what we advance for the Transformation Dimension of our model: being in a maturation process aiming at benefits that go well beyond the financial profits and reaching intangible benefits that free the organization from the more immediate issues related to costs cutting. However, to reach this dimension, the organization must master the information, knowledge and intelligence dimensions of CI. By mastering the transformation dimension, the organization becomes able to engage in the deuteron-loop learning.

The proposed CI model is based on the Argyris and Schön theory (1974). The authors believe that the people own mental maps that say how to act in particular situations. That involves the way to plan, implement and review our actions.

With this approach about the ability of learning, Argyris and Schön (1978) defined 3 kinds of organizational learning:

1. *Single-loop learning*: this learning occurs in the organization when the errors are detected and corrected. However, the organization continues with the already established policies and objectives.

2. *Double-loop learning*: learning occurs when, besides error detection and correction, the organization questions and modifies the norms, procedures, policies and objectives which were responsible for the errors made.

3. *Deutero-loop learning*: learning occurs when the organization learns how to perform single-loop and double-loop learning in a planned way. This kind of learning is very important in the continuous and cyclic process of learning in the organization, since it's responsible for the organizational transformation process. It's important to highlight that the first two loops do not happen if the organization is not conscious that the learning should occur.

The *double-loop* and the *deutero-loop learning* are related with the "why" and "how" the organization should change, while the *single-loop learning* is related with the change acceptance without questioning key assumptions and practices of the organization.

The organizational intelligence is the result of the evaluation and reflection process which lets the decision maker and the organization members decide more effectively, and helps them implement activities and mechanisms which guarantee competitive advantage to the organization.

CI Process	Learning loop
Gathering of information	Error and problem detection and correction – *single-loop learning*
Application of knowledge	Proposals for change in the application and measurement of the CI process - *Single-loop* and *double-loop learning*
Evaluation and reflection	Evaluation and reflection of the CI process and of CI staff and decision maker - *Double-loop learning*
Intelligence process results	a) Problem Solution and decision making; b) *Insights* on new competences of CI staff and/or decision maker.
Diagnosis of change and organizational learning	a) Formulating new competences facing the organizational internal and external environment opportunities and threats; b) continuous learning and restructure of the CI process in the organization.
Cyclic process of cognition and action of the organization	*Deutero-loop learning*. The decisions are influenced by changes and processes occurring in *double-loop learning*.

Below, we present some questions based on the clarification of the proposed dimensions and on the Argyris and Schön theory adopted in the preliminary model. Please answer each question using the following scale:

1	2	3	4	5
Disagree Strongly	Moderately Disagree	Undecided	Moderately Argel	Agree strongly

The following questions approach the proposed dimensions according to the learning process in the development of the CI process. Based in the previously defined dimensions and in your experience, please answer the following questions clicking the appropriate choice:

Questions	Disagree Strongly				Argel Strongly
1. Identifying and correcting errors and problems of CI, proposing solutions can be considered an activity named *single-loop learning*.	□1	□ 2	□ 3	□ 4	□5
2. The information process in CI contributes to single-*loop learning*.	1□	2□	3 □	4□	5□
3. In CI, The information transition to knowledge process contributes to *double-loop learning*.	1□	2□	3□	4□	5□
4. The process of knowledge to intelligence transition should integrate *double-loop learning*, i.e., cognitive and behavioural changes in CI team members and decision-makers.	1□	2□	3□	4□	5□
5. The feedback of the reflection and evaluation process can provide a new learning process to the decision maker based on *single-loop* and *double-loop learning*.	1□	2□	3□	4□	5□
6. The intelligence process in CI contributes to *deutero-loop learning*.	1□	2□	3□	4□	5□
7. The intelligence transition process to organizational transformation contributes to *deutero-loop learning*.	1□	2□	3□	4□	5□
8. Cognitive factors such as: attention, information, knowledge and intelligence contribute to the Organizational Transformation process, where the decision maker is the central agent.	1□	2□	3□	4□	5□
9. We can apply the CI process to the organization according to the Argyris and Schön approach in order to generate organizational transformation.	1□	2□	3 □	4 □	5□
Questions suggested by specialists					
10. Whenever the double-learning occurs in the CI process, there is an intrinsic cultural change.	1□	2□	3 □	4 □	5□
11. In all steps of the CI process there should be a concern for behavioural and cultural aspects with impact on the CI team.	1□	2□	3 □	4 □	5□

Please, add any observation you find relevant. Please use the shadowed area:

Below we present some specific questions about CI measurement related to the preliminary model proposed in our investigation. The referred model is based on the SCIP's model - Society Competitive Intelligence Professionals.

The following questions are related to indicators of the Organizational Transformation Dimension, since the CI literature already owns indicators that embrace the other dimensions.

For the **Organizational Transformation** Dimension we established the following indicators:

	Critical Factors	New Indicators/ways of measurement	Objectives
Staff / CI Decision Maker	Innovation: CI Staff and Decision makers' capacity to present new ideas	% New ideas profited by the organization; % New products and proposed services **% of variation of sales and/or profits and/or of market share due to the new ideas.**	To define the % of the new ideas and/or products can be used by the organization.
	Satisfaction: to guarantee high CI staff motivation and determination	% CI Staff satisfaction index; % Incentives amount and possible perks; **% CI initiatives acknowledge and valued by the organization;** **% satisfaction and/or involvement of staff;** **% Satisfaction of the internal customers.**	To identify the amount of incentives that is required to improve staff's motivation, involvement, and satisfaction To determine how to measure the internal customer satisfaction index.
	Qualification: assure CI staff and decision makers knowledge levels which aim at enabling their performance	% Qualified staff; % Training hours; % Continued Education programs for CI staff and Decision Makers; % Research and Development (R&D) **% Turn over of CI team elements.**	To identify the qualification of the CI staff I order to define the required training Determine the training effort in % of hours'. To understand if the organization has a Program of Continued Education or enables the participation of the staff and decision makers in external programs. Identify the % of organizational investments in Research and Development.
	Technology: to benefit from the technological potential to better develop and apply CI in the organization	% IT tools supporting CI; % Investments in information technologies for CI Staff and Decision maker. **% of the CI budget that is allocated to TI tools**	To determine the % of investments in information technologies. To determine the % of the technological potential of staff of CI and decision makers is applied in CI.

Regarding the table above, the highlighted items were suggested by specialists' participating in this Delphi study, and they are included in item 13 for a new evaluation

17. Do you agree with these indicators? Please use the shadowed area:

Based in your experience, please answer the following questions: In an importance ranking which ones do you consider more important and which do you consider less important, concerning the **Organizational Transformation** dimension? Please answer each question using the following scale, clicking the appropriate choice:

1	2	3	4
Not important	Slightly important	Important	Very important

Proposed Indicators	Not Important			Very important
% CI Staff satisfaction index	☐1	☐2	☐3	☐4
% Incentives amount and possible perks	☐1	☐2	☐3	☐4
% Training hours	☐1	☐2	☐3	☐4
% Continued Education programs for CI staff and Decision Makers	☐1	☐2	☐3	☐4
% Research and Development (R&D)	☐1	☐2	☐3	☐4
% IT tools supporting CI;	☐1	☐2	☐3	☐4
% Investments in information technologies for CI Staff and Decision makers.	☐1	☐2	☐3	☐4
% of variation of sales and/or profits and/or of market share due to the new ideas.	☐1	☐2	☐3	☐4
% CI initiatives acknowledge and valued by the organization.	☐1	☐2	☐3	☐4
% satisfaction and/or involvement of staff.	☐1	☐2	☐3	☐4
% Satisfaction of the internal customers.	☐1	☐2	☐3	☐4
% Turn over of CI team elements.	☐1	☐2	☐3	☐4
% of the CI budget that is allocated to TI tools	☐1	☐2	☐3	☐4

Tank You!!!

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