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# The Brand is the Image of the Company

All winners created a brand as competitive advantage. In an increasingly intense global business arena, branding can serve the creation of competitive advantage through two distinct functions:

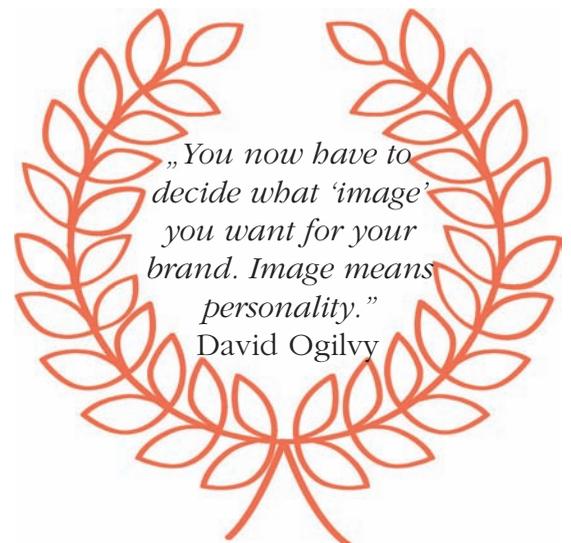
- (1) A brand ensures an entrenched customer base that is more difficult (and expensive) to displace;
- (2) A brand can provide a company with a foot in the door when seeking to enter new geographic areas.

The brand can be a useful offensive tool and defensive tool when you are competing with non-local companies. Firms compete on the basis of brands or labels. Each brand may be preferred by different buyers willing to pay a higher price or make more frequent purchases of one branded product over another

Branding as a concept has been around for many years now. From a customer's point of view, brands simplify shopping, aid in the processing of information about products, and make them feel confident of their purchase decision. Managers have also become aware of the fact that the brand has become an important company asset, and focus is needed on the creations of brand equity (R. Abratt, G. Bick, 2005).

The organization branding encompasses the processes by which an organization, as a whole, is branded and its name then used to support its product brands. The organization brand can endorse product brands, providing indication of trust, reputation, and recognition, and marketing powerful associations with innovation, public services, and national characteristics. The organizations develop brands is a way to create and attract new customers by promoting value, image, loyalty, prestige and lifestyle. They may enjoy a trust or customer loyalty if they able to differentiate the brand from the competitor. Some of the brands have through a change in the organization, but is able to maintain the customer due to strong branding.

Corporate brands act as effective platform for brand stretching and brand extensions and provide a sense of „body” for that brands that operate in diverse, and seemingly unassociated, categories. In addition, corporate branding is important for creating and consolidation of organization's reputation, image, and public acceptance.



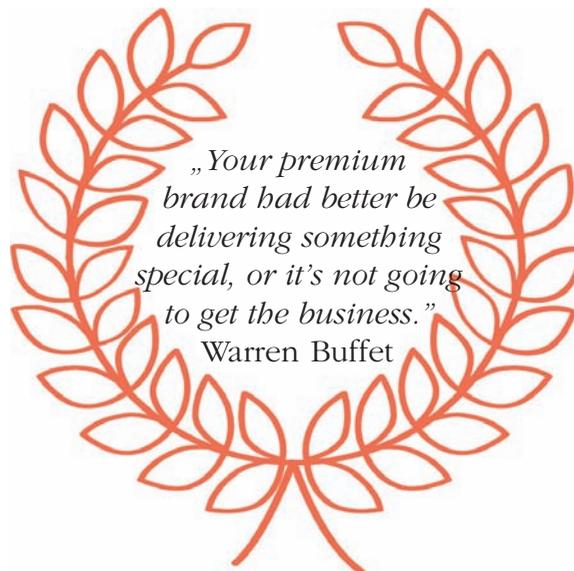


In other words, brands are a mode of influence. Companies create and nurture their brand as a way of affecting the behavior of customers. It doesn't really matter how much people know about their brand if they don't buy it. Communication is only a tool for influencing people's behavior, and it is often the least effective. If one asks himself: How often does someone tell one something that fundamentally influences one's behavior? The answer is rarely, if ever.

Building the successful brand is the most important issue of marketing management and strategy. When a company creates strong brand it attracts customer preference and company is more protected against a competition effort. Strong brands obtain good prices and large market shares through its strong brand management initiatives, and company can plan a growth through the penetration of new markets. In business, having a strong brand can ensure a company's long-term success; companies with portfolios of strong brands create value for the company competitiveness in the market.

Marketing is not a battle of products; it's a battle of perceptions. The power of a brand lies in what resides in the minds of customers – what they learned, felt, seen, and heard about the brand as a result of their experiences over time.

*Florin Dănălache*  
Senior Editor



# Collaborative Decision-Making in Products Design

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Alain Riviere (2)**

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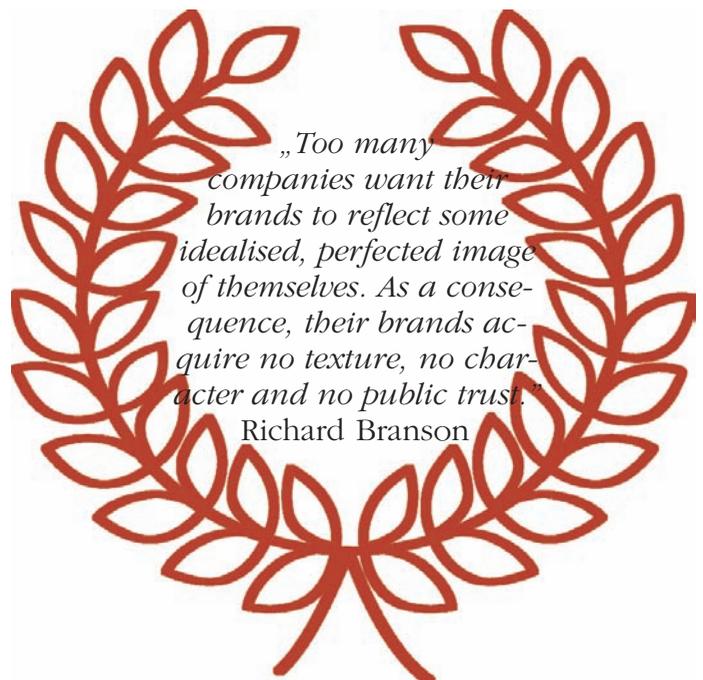
Abstract

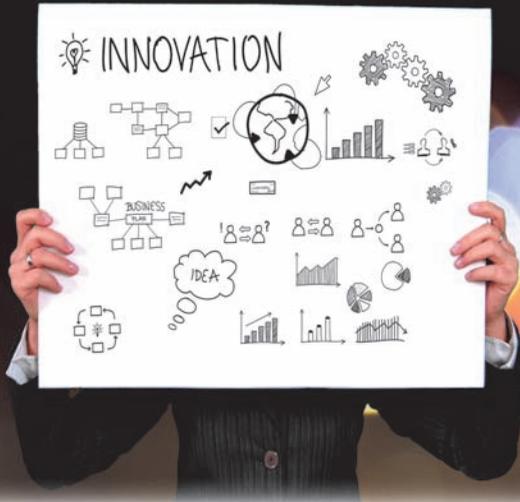
*In this paper we present a research in progress that exposes an integral collaborative decision-making process combining Case-Based Reasoning approach and the Process Mining techniques (CBR-Mining) to improve designing of manufacturing products. In collaborative decision-making participating actors have different objectives, constraints, knowledge, and viewpoints. The purpose of this paper is to illustrate via a use case study how process mining techniques may be integrated into Case-base-reasoning.*

**Keywords:** product development process, knowledge management, decision support, case based reasoning, process mining, industrial design.

## Introduction

Rapid innovation and costs reduction during the collaborative design of industrial products is a strategic issue for industrial companies. In this context, several actors are involved in a collaborative environment with different views during different phases of the product lifecycle, while exchanging knowledge expressed in heterogeneous formats. This knowledge is related to different concepts such as product structure, usage, project history and design activities, parameters and constraints. Increasingly, enterprises are realizing how knowledge is accumulated in recent years, in order to emphasize the „know-what“ and „know-how“.





The exploration and management of this knowledge allow for the discovery of the inflow of resources that can be used to optimize product innovation and to make knowledge-driven decisions.

In collaborative decision-making, participating actors formalize the system according to different viewpoints during different phases of the product lifecycle. Collaborative decision-making is a common decision process for two or more operational processes. It depends on the information, outputs of operational processes that are continually changing and thus introduce the unpredictability in the decision-making process.

Our research approach involves the construction of a knowledge mining model to facilitate support decision in product design. Firstly, we try to develop a generic model which covers all information on past design processes including the applied solutions. Secondly, since the design process is the process that is based on the experience of the designers, it oriented us to a new combination of process mining and case-based reasoning (CBR). In our case, the case-based reasoning is used to browse the previous design cases to provide good design practices inspired by previous experiences. Process mining, on the other

hand, aims at discovering a process model that merges all previous similar solutions.

This paper is organized as follows: Section II introduces case-based reasoning and process mining and presents some contributions for their integration. Section III describes some major features needed for the capitalization and reuse of knowledge in this context. Section IV presents the standard design model product. Section V describes the authors' approach, which is used to support decisions in design. Section VI illustrates the first results. Section VII concludes the paper and discusses some future improvements.

## Case-Based Reasoning and Process Mining

The case-based reasoning (CBR) solves problems by finding similar cases in its knowledge base and adapting to the particular case. This solving is made of a number of phases: case representation, indexing, similarity comparison, retrieval and adaptation. In the literature, several contributions to the combination of data mining techniques with the CBR process were proposed. Arshadi and Jurisica have combined CBR with data mining to improve case-based classification (Arshadi, N. and Jurisica, I., 2005), Kim and Han proposed a new method of indexation and classification based cases, based on the use of artificial neural networks competitive (Kim, K.S. and Han, I., 2001), Beddoe used genetic algorithms to facilitate selecting and weighting features to personnel rostering (Beddoe, G.R. and Petrovic, S., 2006).

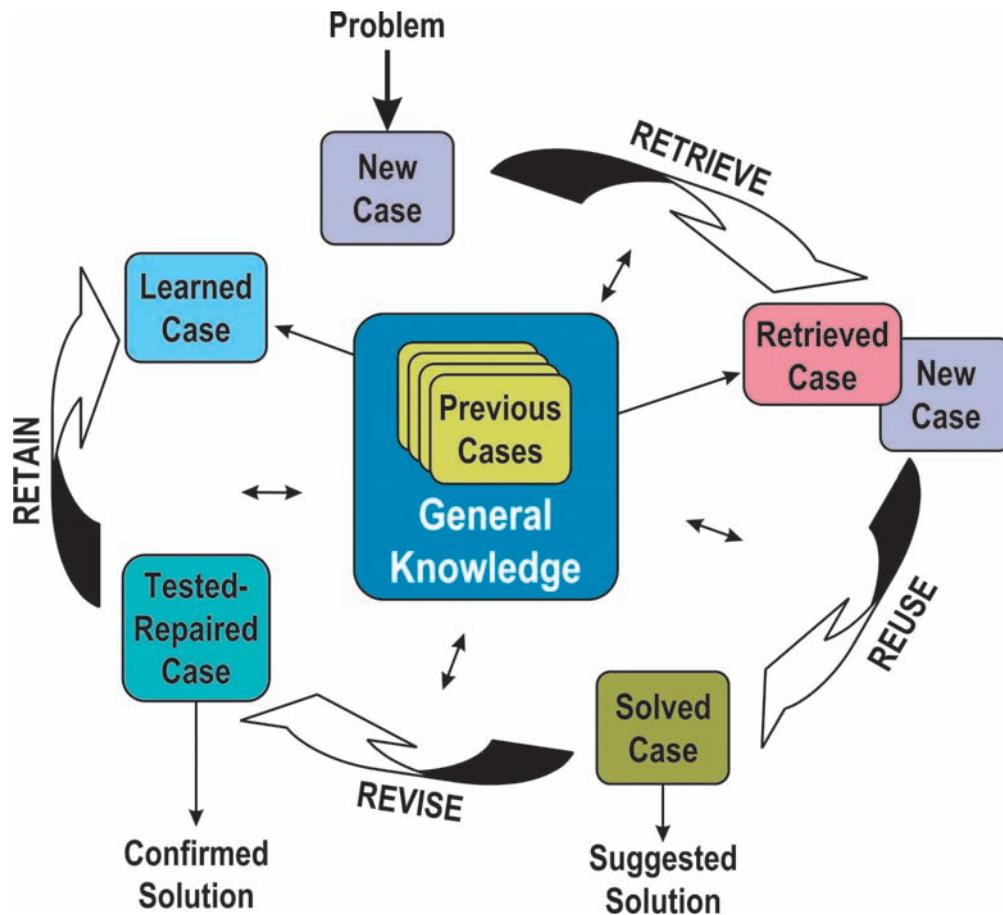
The character of the product design process oriented us towards the use of process mining because it is a new method that has been recently used in various domains, such as healthcare (Anyanwu, K. *et al.*, 2003),

time prediction (Backus, P. *et al.*, 2006) and in various other areas for analyzing resource behavior (van Der Aalst, W.M.P., 2011). But it has not yet been applied in the domain of product design. In our work, we decided to adopt an approach that combines case based reasoning with process mining in order to improve the design products process and to support the decision. We will discuss in more detail this approach in the next section.

The **Case-Based Reasoning** (CBR) was introduced in 1975 by Minsky. In 1994, Kolodner formalized the foundation of CBR in his book (Domeshek, E. and Kolodner, J., 1993) and in the same time, Aamodt and Plaza formalized the CBR cycle (Aamodt,

A., 1994). The CBR is a process that involves the reuse of past experiences and was used in expert systems and cognitive science. In this approach, the user trying to solve a new problem recognizes similarities with previously solved problems called cases. A case is a commonly specific problem that has been identified, resolved, stored and indexed in a memory with the solution, and optionally the process for obtaining it (Watson, I., 1999, Cortes Robles, G., 2006). The CBR systems are applied in many fields such as medicine, trade, industrial diagnosis, monitoring and financial analysis.

The lifecycle of a CBR is composed of four steps: Retrieve, Reuse, Revise and Retain (Figure 1).

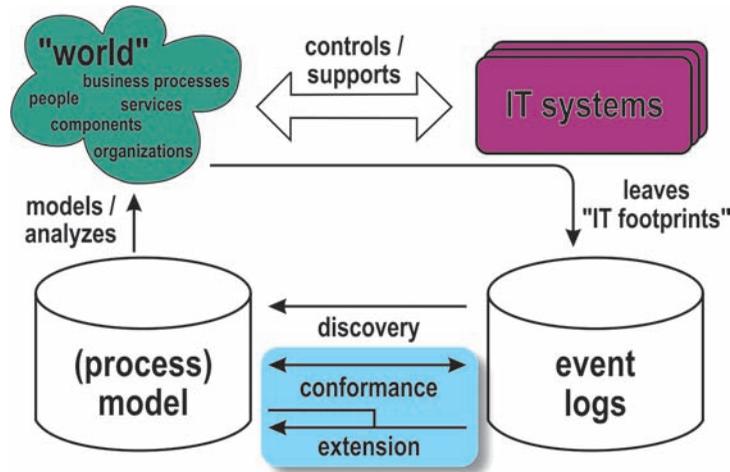


**Figure 1** – *The lifecycle of CBR*

(Source: Kim and Han, 2001)

- Retrieve: Given a target problem, retrieve from memory cases that are relevant to solving it. A case consists of a problem, its solution, and, typically, annotations about how the solution was derived.
- Reuse: Map the solution from the previous case to the target problem. This may involve adapting the solution as needed to fit the new situation.
- Revise: Having mapped the previous solution to the target situation, test the new solution in the real world (or a simulation) and, if necessary, revise.
- Retain: After the solution has been successfully adapted to the target problem, store the resulting experience as a new case in memory.

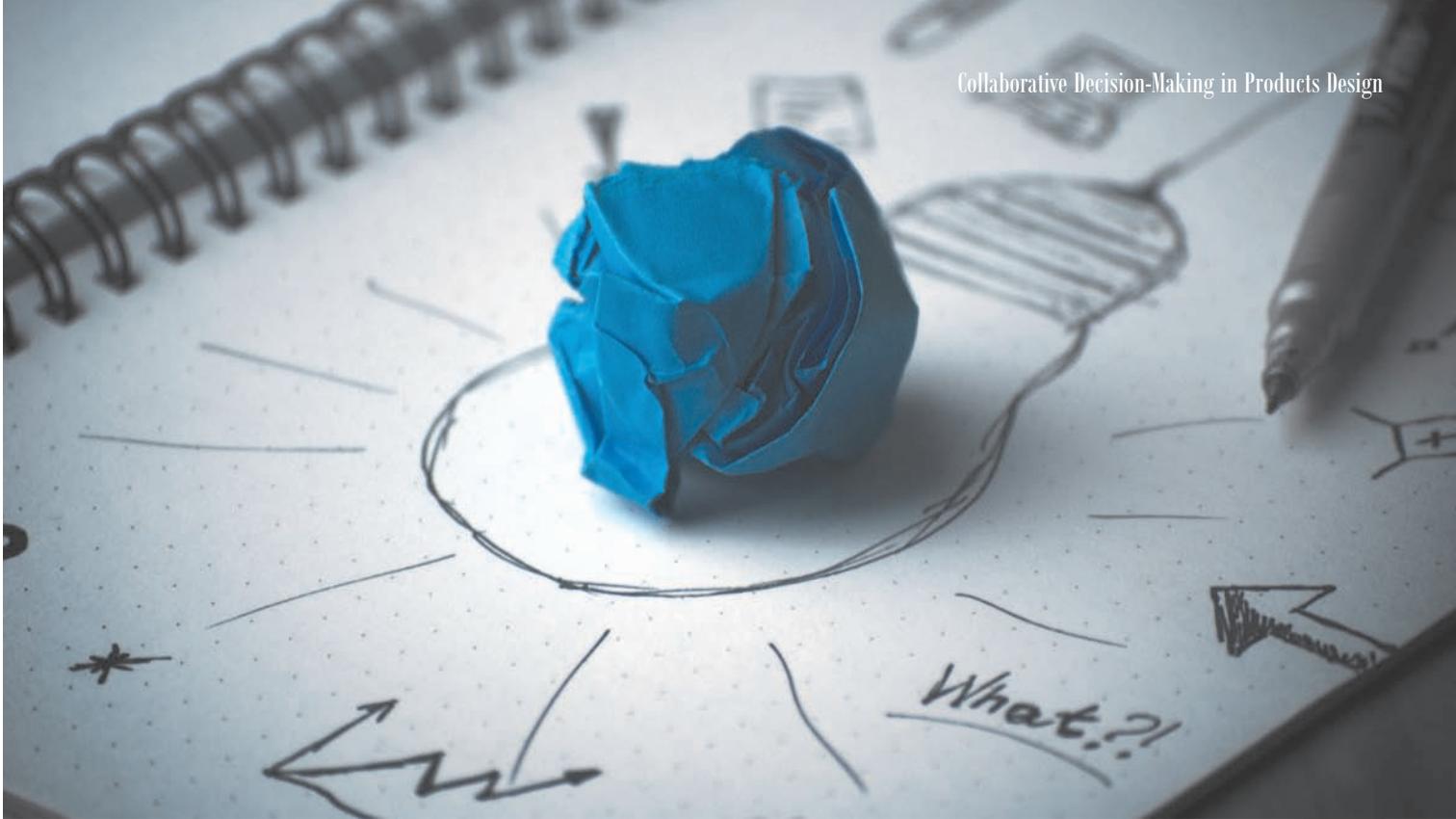
**Process mining** aims at discovering, monitoring and improving real processes by extracting knowledge from event logs available in today's information systems. Log files may contain data recording three perspectives: behavioral (tasks and their time of execution), informational (data used and produced by tasks) and organizational (actors which perform tasks and their relationships) (Figure 2).



**Figure 2 – Three types of process mining: *Discovery, Conformance, and Extension (Enhancement)***

(Source: Kolodner, 1993)

- Discovery: Produces a process model from event logs without using any a priori information. The discovered models can be represented by formal languages such as Petri nets or notations such as Business Process Model and Notation (BPMN).
  - Conformance: Check if reality conforms to the process model: compare an existing process model with an event log of the same process. It is also used also to detect, locate and explain deviations, and to measure the severity of these deviations.
  - Enhancement: Extend or improve an existing process model using information about the actual process recorded in some event log.
- In the literature, there are many tools using process mining, some of these products are ARIS Process, Enterprise Visualization Suit, Disco, Genet Petrity, Intersage BPME, OK T Process mining suite, Process Discovery Focus, Process Analyser, Rbminer Dbminer, ProM, Reflect. We use for our work, ProM tool (Mans, S. *et al.*, 2014) because it is an Open Source framework and it supports all of the process mining



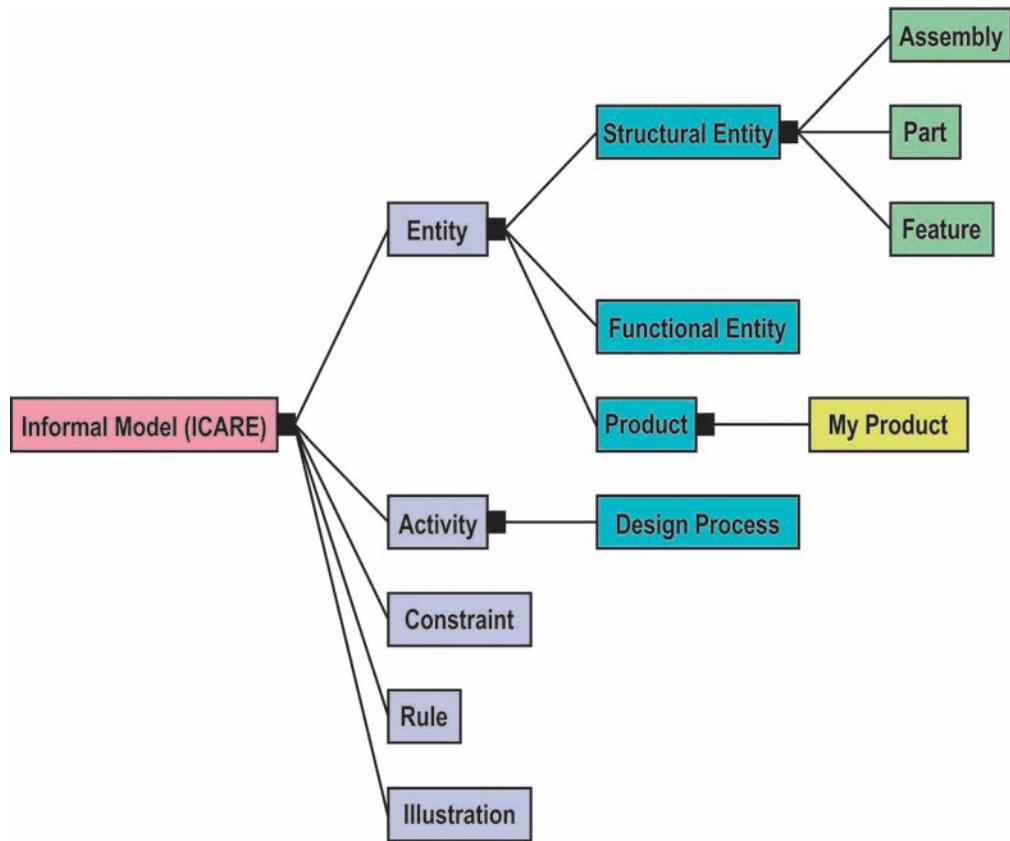
techniques presented in Figure 2. For example, each of the discovery algorithms (genetic mining, heuristic mining, fuzzy mining, alpha algorithm etc.) are integrated into the ProM tool.

## Modeling Knowledge

The innovation and performance of design activities for industrial products become a major issue for business success. To be placed high on the globalized market, it must not only combine customer satisfaction, productivity and competitiveness but also deal with the growth of technology and the increasing volume of available and accessible information. The management of their own information has always been one of the issues for companies. This information is currently processed and managed to take into account the meaning and semantics, which means that it manages instead of knowledge. In order to help engineers from various disciplines work together to identify the choices that will

guide and justify decision-making in design product, we decide to build our knowledge base capturing the knowledge generated by the practice of product development process and to represent them by the principle proposed by MOKA methodology (Methodology and tools Oriented to Knowledge based engineering Applications) (Bernard, A., 2015, Klein, R. 2000). This principle consists of collecting „ICARE” forms defining knowledge elements as follows:

- Illustrations representing comments, past experiences, specific cases and complex explanations;
- Constraints describing the product's or its component's limitations;
- Activities to describe problems resolution stages;
- Rules to describe knowledge that directs the choices in the activities;
- Entities to represent knowledge elements that describe the product, its components, its assemblies, parts and features. An entity can be structural or functional (Figure 3).



**Figure 3** – *Informal model of MOKA*  
(Source: Mans et al., 2014)

The ICARE form translates the meta-product models and processes. In our case, we choose to propose a generic product design model by integrating the different common concepts of the product appearance and process. This model allows driving the design activity from a design situation previously formalized in order to evaluate support design. In this way, we will propose our generic product design model.

### Generic Product Design Model

In this section, we propose a generic product design model to provide a unifying view of all the concepts involved in design activities, our work is based on the meta-model of the MOKA principle. This model is divided into four packages: design

activities description, product, process, resources.

The design activities description: this is the base case, containing all past design activities as problem description and all the information about the design activity itself: start date, end date, structure, rules of calculations, dimensions, resources etc.

The product covers five essential models (structure, function, behavior, constraint):

- Structure: contains all components of the product as the various geometries to achieve;
- Function: identify different rules for the calculation and design that allows to sequence and control the execution of design tasks;
- Behavior: is the study of the behavior of products in its use phase.

### Combining CBR and PM

In this section, we present our approach of coupling CBR and Process Mining to provide a methodological framework to support design. The idea is to provide a model process design activity responding to a current design activity. In fact, this model process is found by analyzing all related design activities. For each current design activity, we calculate the degree of similarity compared to the process stored in the case base. We use the process mining to extract these similar processes and generate a model process. Moreover, to

use CBR and to adapt process mining to our problem, we assume that:

- the knowledge base used is relevant, it covers a large number of process design and is filled automatically;
- only effective solutions judged considered good practice, are stored.

This coupling aims to improve the performance of CBR. In our case, we focus only on the retrieving step to extract previously designed activities and on the reuse step in which we used process mining to discover a new process, merging past similar solutions. Figure 4 illustrates our approach.

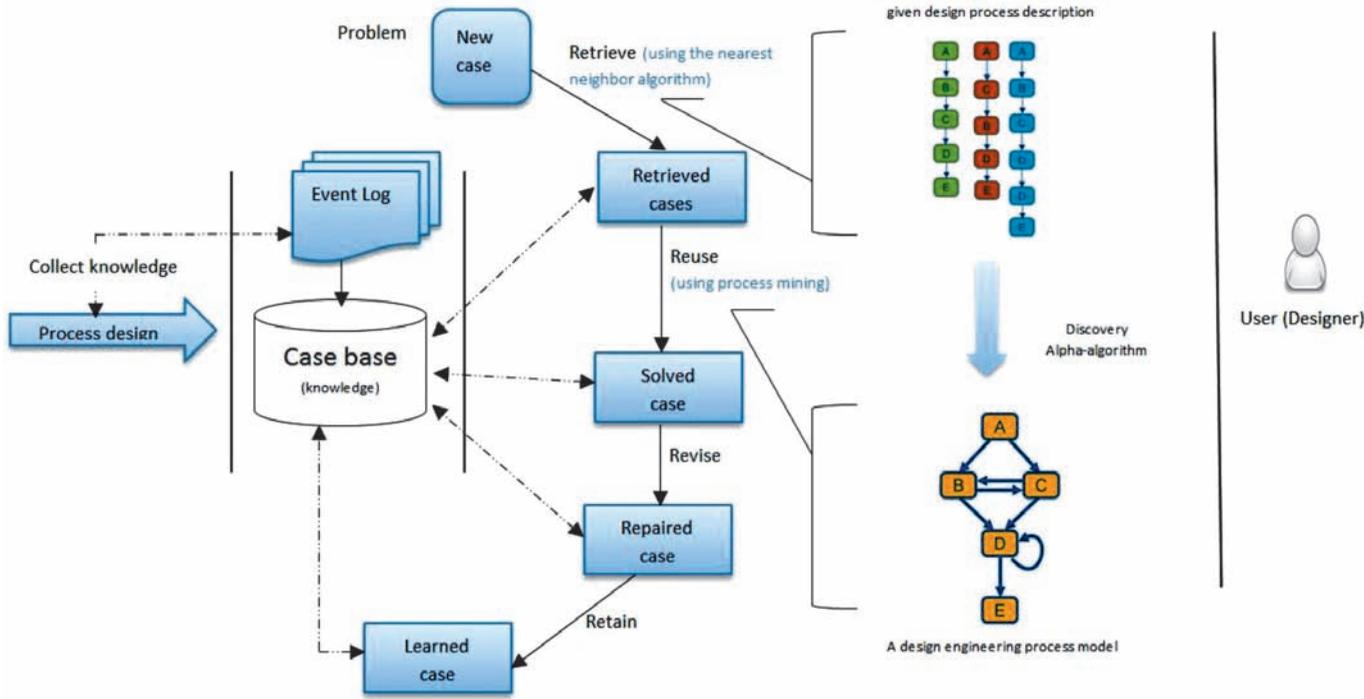


Figure 4 – CBR-Mining approach

In the CBR process, when a new design task comes, it is represented as a new case. We apply an algorithm to extract the best similar previous cases, based on a highest similarity degree factor. We used the nearest neighbor algorithm (Kolodner, J., 1993) which is a simple approach that calculates

the similarity between previously stored cases based on features selected by the user.

In order to use the process mining, the processes selected will replace the event log and they must respect all the important parts of the event log structure. After we apply the alpha algorithm

(van Der Aalst, W.M.P., 2011, Alves de Meireis, A. K. *et al.*, 2004) of process mining which aims to discover a workflow from a set of execution traces of the same workflow. The alpha-algorithm is based on the workflow-net (WF-net) and the workflow log (WF-log) to represent the workflow.

- A (WF-net) is a Petri net responding to structural constraints;
- A workflow-log (WF-log) is a sequence of events produced by the execution of the workflow. Each event is characterized by a type and each type is associated with a transition from WF-net that produced.

## The Case Study

In this section, a case study is discussed in order to illustrate the analyses that are

possible and the process mining algorithms that are available in order to validate our approach. As we have already mentioned, we assume that our knowledge base covers a considerable number of design activities and it filled automatically. We choose the design activity of a „Carrosserie” process as a use case. The aim of our approach is for the user to be able to recover all similar processes to his target case (Design activity) stored in his knowledge base using the nearest neighbor algorithm. The recovery of these processes can be expressed by two groups of factors: product type and process feature factor (design task process requirement). As can be seen in Figure 5, we recover all process similar to the activity design „carrosserie”:

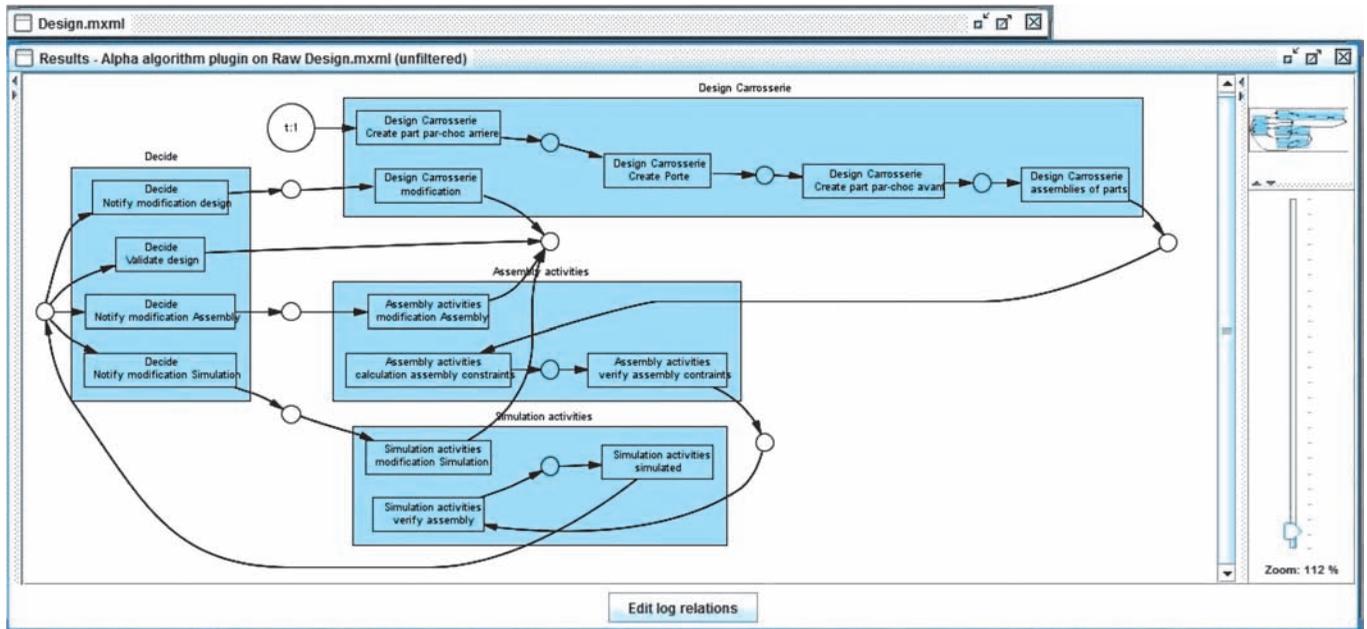


Figure 5 – Describing the design process using the process mining

In order to extract information from this event log file and to test the applicability of our approach, we choose to use ProM framework (Mans, S. *et al.*, 2014), which is an open source framework for

process mining. Initially, the data are in form of Excel file but using ProM Framework, the data was converted into MXML (van Der Aalst, W.M.P., 2011), a format that is commonly used in ProM which will

be used as the input to the process mining algorithm. Therefore, in our study, we apply the mining algorithm alpha algorithm that we have explained above.

## Conclusion

Figure 5 shows some results regarding the process design till the validation of the prototype. These results have been used for answering the need of the user (designer). In order to design products in a short time, the user analyzes the event log including all the solutions of similar past experiences to the activity „carrosserie” and we deduce a model process. This model presents the tasks that are executed in the process:

- Design activities: presents all the workflows Elements and the Event Log used in the design of our product;
- Assembly activities: Presents all the workflows Elements and the Event Log used in the assembly of the pieces;
- Simulation activities: presents all the workflows Elements and the Event Log used in in the simulation of the virtual prototype before proceeding to manufacture;
- Decide: allows the project manager to validate project or to notify Modification before to transmit it to client

In this paper, we presented CBR-Mining approach which aims to facilitate the technical design of industrial products. The proposed approach provides a domain case base with knowledge reuse capabilities. The objective is to support, optimize and improve engineered products realization and enhance software applications. The originality lies in the discovery of a process model based on past similar processes that are stored in a knowledge base. To validate our proposal, we have chosen the extraction of an automobile design process as a case study.

Our future work will focus on the development of a web application experience feedback to support the industrial design activities. We will integrate ProM tool and connect it to our knowledge base. The idea is that the ProM tool can import and operate directly log files stored in the knowledge base. Furthermore, to achieve semantic interoperability of data, we will transform MXML files imported by ProM to OWL format which is a language for knowledge representation.

This application design future work will focus on extending the already modeled domain knowledge and increase the capabilities of our Framework. An extension of the data types and their attributes in the underlying case-base will be performed. Further to that, the implementation of the knowledge enriched applications will be finalized and the framework will be deployed and tested in a real industrial pilot case under SOA (Service Oriented Architecture) in a Factory of the future equipment based on Internet of Things protocols connected to the Cloud.



## Acknowledgment

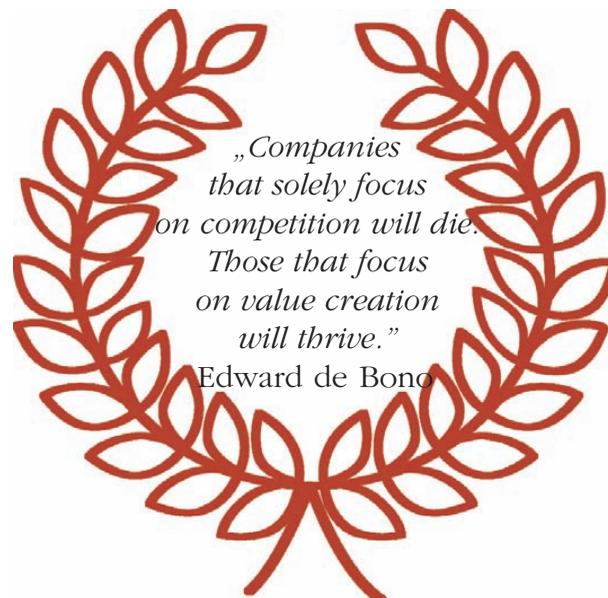
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# Nation Brand and Reputation of a Nation

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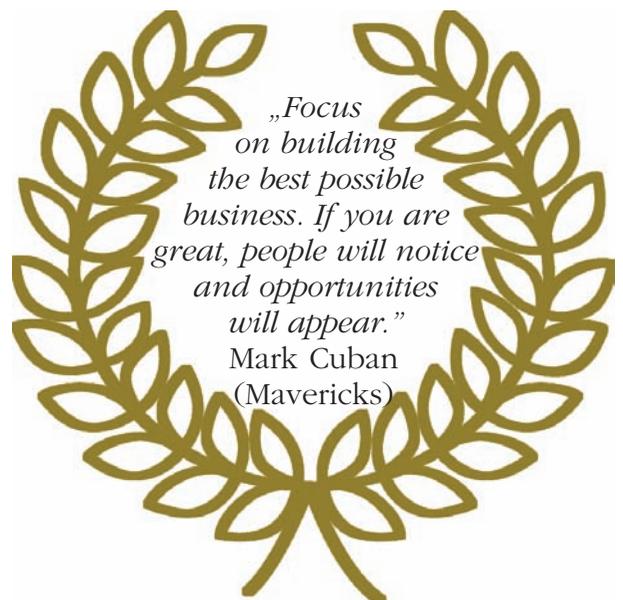
Abstract

*Branding is not a new phenomenon. However, in recent decades its use has taken on new forms. Given this, countries/places can also be branded as goods and services. Branding principles apply equally even if we talk about a nation or a corporation. However, the methods differ. The purpose of this paper is to highlight the differences between nation brand and nation image and to analyze the process of creating a national brand for Romania. The secondary research aims to identify the weaknesses of the branding strategy designed for Romania and also the advantages which Romania currently holds in order to better attract the attention of foreign investors. The research findings can be of real interest to marketing experts seeking ways to reposition Romania.*

**Keywords:** nation brand, nation image, branding strategy, advertising campaign

## Introduction

A brand represents the identity of a good, service or specific business. A brand can take many forms, including a name, a sign, a symbol, a color combination or a slogan. The word „brand” comes from the Scandinavian word „brandr” which means „to burn”, „fire”; moreover, „brandr” represents the hot iron used by owners to mark their cattle. From the legal point of view, brand is considered a mark indicating the manufacturer of the product, being subject to legal protection. From the perspective of the consumer psychology (consumer research), one can talk about the brand as the information stored by consumers regarding a good or a service.



The brand is a very technical concept which gathered more than a dozen other definitions, all correct in their own way. One of them states that a brand is „the automatic powerful and persistent association of a good or service (with all attributes related) offered by a company to a concept or an unique experience in the minds of its customers”.

## The Role of the Nation Brand

According to Rainisto and Moilanen, places/countries may also be branded, alike products. Branding is not just a marketing activity, but a holistic development, influencing the entire space. Location branding brings additional attraction to a place. A place that is a brand makes people aware of that location, which will be for them a unique-factors-combination which differentiates it from the competition (Moilanen and Rainisto, 2009, p. 376).

The nation brand is the process by which a nation is actively seeking to create a unique and competitive identity in order to settle itself both internally and externally as an attractive destination for trade, tourism and investments (Nworah, 2004).

Although the „nation marketing” concept emerged in the 90s, the subject is not entirely new. Many countries have promoted their image over time, using different methods and techniques, to attract foreign tourists. Numerous studies have been conducted over the past 40 years to identify the effect of the nation of origin’s brand over its products.

Nation branding is a set of programs that make a nation different to another. This process is intended to provide an identity to that nation by forming a true, positive and attractive image.



A nation brand is important whether it is a developed nation or a developing one. Successful countries identify their image and their products by supporting policies which define qualities of that country. This can be observed in sectors such as tourism. Yet nation branding includes not only a specific sector but the nation as a whole.

Branding principles apply equally to the nation as they would apply to a corporation. However, the methods differ. Countries compete daily with neighbors or block regions for tourism domestic investments and export sales, and those of them which start with a bad or low reputation will be limited or marginalized. These countries cannot easily promote their commercial success (Randall, 2004, p. 3).

## Nation Image and Nation Brand

The literature distinguishes between nation image and reputation of a nation on one hand, and nation brand on the other



hand, as nation brand is created through a process of branding the nation. If the nation's image and reputation are concepts that were used for a long time in this domain, the nation brand and branding of the nation are relatively new concepts.

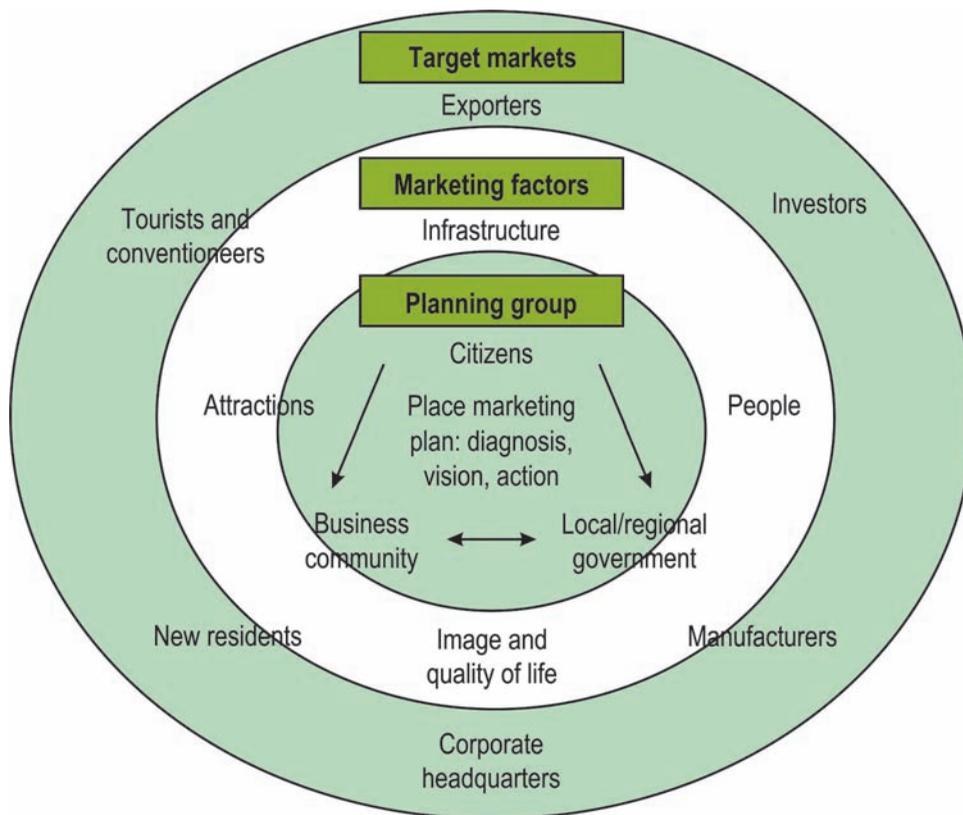
The image or the reputation of a nation refers to the set of beliefs and opinions that a person has about that nation (Kotler and Gertner, 2002). The image of a nation can be defined as the beliefs, ideas and impressions that people have about a country. The image of a nation is the focusing and streamlining of a large number of associations of ideas and information concerning that country. It is a product of the mind, trying to process and synthesize a wealth of data and information on a nation. Therefore, different people may have quite different images relating to the same country. The perception that a person has related to a nation but not always correspond with that person's attitude towards the nation and countries can act consciously to change perceptions and attitudes and influence others towards that country.

The difference between the image/reputation of a nation and the nation brand is that the first can be formed without specific actions directed to this end, while the nation brand is the country's image arising as a result of the efforts made in this respect by the country. Basically, the nation brand is more than the country's image; it is an image of the nation which is consciously influenced and directed in a favorable direction to that country. The image of a nation can be built randomly, as it appears spontaneously; the „nation brand” is – broadly – a historical and cultural product which can be planned through a coherent strategy.

## **The Process of Creating a Nation Brand**

The national branding plan takes shape when creating branding strategy, which also includes the means of communication. Several authors mentioned the various dimensions of the branding of a country. The literature survey can be summarized in the concept of the brand hexagon related to geographical locations which includes: tourism, export trade marks, internal and external policies (or public diplomacy), investment and immigration, culture and history, and people. All these elements play an important role in a country's international competitiveness, as they are the main aspects that come into contact with external customers.

According to Brymer (2009), designing a program to create a nation brand requires an integrated effort of all those dimensions and the ability to communicate it and act in a coordinated and repetitive manner. Such coordination is required as it implies involving a large number of actors who appear in the brand of the nation (Figure 1):



**Figure 1** – *Nation branding process*

(Source: Kotler, 2002)

There are several nation mega brands like the US, Japan, Italy and France, whose public image is so strong, positive and penetrating that anyone can believe that their management requires a lot of work. These are countries that are associated with certain valuable attributes (France is associated with the quality of life, Italy – with style, Japan – with technology and the US – with power and wealth). Every time a new product's brand appears in one of these countries it will benefit from the beginning from a certain advantage, despite all its competitors in the global market.

Today, countries need to attract tourists, factories, companies and talented people, and to find export markets for their products, things that require adapting the instruments of strategic marketing and branding (Kotler and Gertner, 2002).

According to Rainisto (2003), creating an added-value nation brand involves four steps:

- The country should provide the basic services, and its infrastructure should be maintained at a certain level that satisfies citizens, companies and visitors;
- A nation needs new attractions to support the campaigns and the audience, but also to attract new investments, people and companies;
- A nation should communicate its features and advantages through a powerful image and strong communication programs;
- A nation should help citizens, leaders and organizations attract new visitors (Rainisto, 2003, p. 38).

However, this framework presents a challenge, according to newer studies.

Thus, in order to support a nation brand, one must analyze the success factors of marketing the nation (Table 1):

**Table 1** – *Successful factors of nation marketing*

Hard factors	Soft factors
<ul style="list-style-type: none"> <li>• Economic stability</li> <li>• Productivity</li> <li>• Costs</li> <li>• Property</li> <li>• Local support services</li> <li>• Communications infrastructure</li> <li>• Strategic location</li> <li>• Incentive schemes and programs</li> </ul>	<ul style="list-style-type: none"> <li>• Niche development</li> <li>• Quality of life</li> <li>• Professional competencies</li> <li>• Culture</li> <li>• Personnel</li> <li>• Management</li> <li>• Flexibility and dynamism</li> <li>• Professionalism</li> <li>• Entrepreneurship</li> </ul>

(Source: Kotler P., Asplund C., Rein, I., Haider, D.H., 1999)

## Romania’s Brand Strategy Analysis

### *Campaigns to promote Romania abroad*

In 2001, Romania launched internationally its first advertising campaign in order to improve its image and to attract foreign tourists. It is the case of „Romania, simply surprising”, a campaign on TV and on outdoor displays carried by Ogilvy & Mather. The campaign was severely criticized because of high costs (about 20 million dollars) and of its connections with political parties, although it was correct in terms of media planning. The campaign was abandoned without publishing the final result (Nicolescu, Păun, Popescu and Drăghici, 2008, p. 64).

In 2005 it was launched the initiative „Romania Branding”, a project dedicated to building the nation brand. The program was to evolve several steps:

- organizing an international tender for choosing a company or a consortium to handle the „Romania Branding” project;
- selecting a company that will provide the audit at different project stages;

- creating a brand visual identity (logo, images, graphics, etc.);
- designing and managing the campaign in the European Union.

It was estimated that the project will be completed in three years and will cost around two million euros. However, up to this date, even the first step wasn’t completed. The Agency for Governmental Strategies (ASG) organized a meeting to launch the project. It looked for a consultant (branding agency) that should create a data sheet for the international tender for the selection of a company or consortium to handle this huge project. But on the day set for the opening of tender offers, the committee noted that no company participated to the tender.

In 2006, the Foreign Affairs Ministry initiated the „Fabulospirit”. The cost of this campaign amounted to 110,000 euros and it was abandoned in its early stage. Three years later it was launched the campaign „Romania, Land of Choice” campaign which cost about 1.5 million euros. The protagonists of the advertising clips were sports legends Nadia Comăneci, Ilie Năstase and Gheorghe Hagi.

In June 2010, in Shanghai, a new tourism brand for Romania has been launched. The logo representing a leaf positioned above the nation's name was accompanied by the slogan „Explore the Carpathian Garden”. Shortly after the launch, there were speculations on the Internet that the campaign logo is very similar to that of a British transport company that launched a line of environmentally-friendly buses at Heathrow Airport in London (Boboc, 2010).

The TV station Travel Channel collaborated with the National Tourism Authority and made two episodes of the mini-series „Wild Carpathia” to promote the landscapes of the Carpathians. One of these episodes included an interview with Prince Charles of Great Britain. In the making of these

episodes, it was involved a charitable association which supported the conservation of wild areas in Europe. These documentaries were broadcast in over 130 countries and translated into 21 languages (Sisean, 2013).

Regarding the number of foreign tourists who arrived in Romania, as it can be seen in Table 2, it fluctuated over the years. What should also be noted is that there is no clear causal relationship between this fluctuation and the investment in these advertising campaigns promoting Romania. In 2005, there was more money invested than in 2010, yet the number of tourists was smaller. This proves that the investments were not controlled and planned efficiently.

**Table 2** – *The costs of Romania promoting campaigns and the number of foreign tourists visiting the country*

Campaign	Costs	Number of foreign tourists
The eternal and fascinating Romania – 1995	7 mil \$	750.000
Romania, simply surprising – 2001	20 mil \$	951.000
Branding Romania – 2005	2 mil Euro	1.500.000
Fabulospirit – 2006	110,000 Euro	1.500.000
Land of choice – 2009	1.5 mil Euro	1.270.000
Explore the Carpathian garden – 2010	0.9 mil Euro	1.700.000

(Source: Business Day 2011, money.ro, 2014)

### ***Foreign tourists' perception regarding Romania as a touristic destination***

The Anholt's index (Anholt, 2007) is the first step in the evaluation and ranking of nations brands. It shows the brands' strength and the ability of nations to attract visitors; it also shows how consumers worldwide perceive the character and personality of the brand. By 2008, the ranking was done quarterly. After each quarter, a study was conducted on a sample of more than 25903

customers worldwide on their perception related to the political, commercial, cultural, investment potential and tourist attractions of 35 developed and developing countries. Since 2009, this study was only carried out once a year and measured the image of 50 nations.

Since 2008, this study included also Romania, which was initially ranked 41<sup>st</sup>. In 2009 it climbed 4 positions to 37<sup>th</sup>, but in 2010, despite the promotional campaigns undertaken, it was back on place 41<sup>st</sup>.

The study aims to annually validate three hypotheses:

1. The foreigners' perception regarding Romania image is influenced by the Romanians' behavior abroad. Each nation image is supported by its citizens, behavior, attitude, and lifestyle.
2. The awareness concerning a touristic image of Romania.
3. Foreigners' perception is influenced by the diversity, the accessibility of services and the quality/price ratio.

### *The results of the Anbolt's index in 2012*

An important element to be highlight refers to how respondents characterized Romanians. According to the responses, Romanians are friendly (17.4%), modest (14.8%), welcoming and hardworking (13.9%), temperate (12.2%). Less than 7% perceived them as: tolerant (7%), dishonest (6.1%), thieves (3.5%), arrogant (2.6%), aggressive and illiterate (1.7% each).

Approximately 49% of respondents associated Romania's image with Vlad the Impaler – Dracula. Approximately 31% of respondents associated its image with sports personalities (Nadia Comăneci, Gheorghe Hagi, Ilie Năstase), most likely due to the promotional campaign „Romania, Land of Choice”. A percent of 32% of participants associated Romania with natural wealth, and 24.3% with corruption.

About 38.3% of the respondents answered that they were aware of Romania as a tourism brand abroad. Of those who were aware of the Romanian tourism brand, 13% dealt with it by commercials, 18.3% by outdoor advertising, 33% through websites and social networks, and 13% came in contact with guides and catalogs.

The quality/price of tourist services in Romania is perceived to be balanced by



20% of respondents. More than half of respondents (59%) believe that tourism services are of poor quality at a high price, and 21% of respondents believe that the tourist services in Romania offer high quality at a low price.

### *Main findings of the study*

The first hypothesis which stated that the perception of foreigners regarding Romania's image is affected by the behavior of the Romanians in Romania and abroad was confirmed. According to the information analyzed, most of the foreigners have a bad impression about Romania because of their last experience in Romania, as they consider Romanians aggressive, dishonest, arrogant and uneducated. Frequently Romanians abroad are associated with beggars, which does not help to improve the image.

The second hypothesis stating that the declining awareness of the tourism brand of Romania is determined by the poor elements of visual identity, by the poor promotion abroad and by using a small number of information channels, was confirmed.



Thus, the data shows that Romania as a tourism brand is familiar to over 38% of respondents, yet 34% stated that they did not know the current brand. This can be explained by the fact that most brand connoisseurs are people who have regular contact with Romania, visiting Romania several times a year or currently living in Romania, while those expressing uncertainties are part of the who visited the nation only once for tourism.

The third hypothesis stating that the perceptions of foreign visitors on tourism services depend on the variety and accessibility of these services and on the quality/price ratio was confirmed. Therefore, tourism in Romania is perceived by some foreigners as accessible and diversified, while others contend that it is below their expectations. The quality/price ratio is considered balanced only by 20% of respondents, while Romanian tourist services are considered by 48.3% of respondents as being worse than in their home country.

The general conclusion that emerges from all the studies within last few years is that Romania must work regularly and

consistently to promote itself abroad. The country's image is influenced in equal measures by its citizens, quality of service and advertising carried out abroad. Re-education of a nation is difficult to achieve in a short time and major investment in tourism infrastructure are hardly achievable. Therefore, the first step towards progress for Romania's image repositioning can be achieved by dynamic, creative and persistent promotion.

## Advantages Offered by Romania

Although Romania has to make more consistent steps in winning an attractive image, however, it has many reasons to attract the attention of foreign investors:

### ***1. Advantages in terms of market and geographical position***

Romania is one of the largest markets in Central and Eastern Europe (7<sup>th</sup> place, with over 21 million inhabitants); it is an access gate to the unified European market which has around 500 million consumers; it has an attractive location – situated at crossroads between the European Union, the Balkans and the independent states community, Romania is crossed by 3 pan-European corridors: the 4<sup>th</sup> corridor that links the Western Europe with Eastern Europe, the 9<sup>th</sup> corridor that connects the North and the South of Europe, and the 7<sup>th</sup> corridor that makes easier the navigation within Europe.

### ***2. Advantages in terms of resources***

Romania has a highly qualified workforce with competitive labor costs (strong knowledge of foreign languages, IT, engineering); it has rich natural resources, surface and underground waters, fertile agricultural lands, oil and natural gas; it has significant touristic potential.



### **3. Advantages in terms of politics**

Romania is a stability factor in the region, a NATO member; it is a warranty of South-Eastern Europe stability; it is a member state of the European Union.

### **4. Advantages in terms of economy**

Romania registered a sustainable economic growth, a decreasing trend in terms of inflation; it benefits from the increase of interest of foreign investors – the main destination of foreign direct investments in this region (Ernst&Young, 2008); it has healthy tax policies (16% corporate tax).

### **5. Social advantages**

There are agreements between the government and the main working unions; the inexistence of major social movements; the workforce market and the work relationships are enacted by the labor code.

### **6. Advantages in terms of law**

Romania has similar legislation to the European Union (implementation of the *acquis communautaire*); it has tax policies regulated by the Tax Code.

## **Conclusions**

Romania does not have a nation brand, yet attention should be focused primarily on achieving a good image of the country. The need of a good image is equally important for both the nation and the companies. Each nation already has an image that exists in the minds of other people, as an entity with both positive and negative characteristics. Countries that have undergone massive political and economic transformation, as Romania, require the repositioning of their national image to help them compete internationally. However, any process of repositioning the image is based on the existing image at a time. In the last 20 years, Romania had a rather unstable image at European and at international level, oscillating from a positive image to a neutral and even negative one. Such inconsistency can be seen both as a weakness (lack of a strong image of Romania abroad), as well as a strength (because there is no distinctive image of the country abroad, one can build it from scratch).

It is estimated that changing a well-established national image for a long time is more difficult than to start one from scratch.

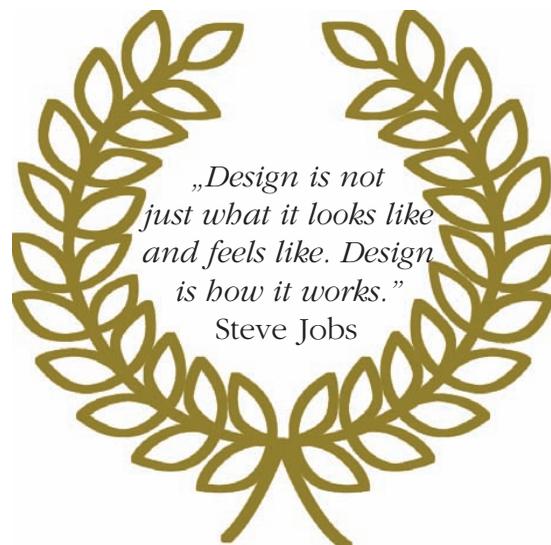
Analyzing all the promotion campaigns from 1996 to 2016, we can conclude that they were not perceived in a positive way by the mass-media or by the citizens; they had big budgets and were suspected of embezzling public money or spending it for other purposes. The campaign messages, logos, positioning, they all created dissatisfaction. Changing the promotion strategy every two-three years created much confusion and did not allow the creation of a whole and powerful nation brand.



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# Measures of Competitive Advantage

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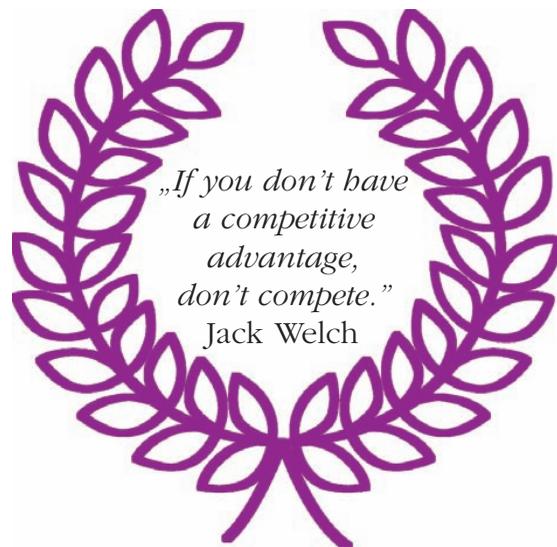
Abstract

*Based on the understanding that competitive advantage is related to the value creation, we aim to propose reasonable indicators that could be used for measuring the advantage. Considering different measures that are already proposed by other researchers, we aim to find indicators which are both easy-to-use and reliable and which take into consideration not only the value for owners but the value for customers as well. Such measures are needed by practitioners to indicate if the organizations they manage have an advantage and what is the size of this advantage. They are of critical importance for researchers too, in their aim to reveal the relations between advantage and its sources. The paper presents a critical and comparative review of indicators previously proposed and gives arguments for using a practical set of measures for understanding the competitive advantage and its sustainability.*

**Keywords:** competitive advantage, value for customers, value for owners, measures of competitive advantage

## Introduction

The concept of „competitive advantage” is widely used in the strategic management literature, although what exactly it stands for is often not always clear. Where definitions are available, there are observed differences not only in the interpretation or the point of focus but also in the indicators that can be used to measure the advantage. The indicators are to be necessary in order to provide managers with a tool for evaluating the results that have been achieved in the competition race, namely estimating the size of that advantage/disadvantage allows



managers to decide upon the usefulness of the strategy being followed, the necessity of its revision and/or the search for new sources of a more effective implementation of the strategy that has been adopted. They are also useful because they provide researchers with a set of tools which, on the one hand, is easy-to-use and on the other hand – sufficiently reliable to be utilized for the study of various aspects of creating and sustaining competitive advantage.

The purpose of the present paper is to put forward a suitable set of indicators that could be used to measure the competitive advantage, on the basis of a critical examination of the available definitions in the literature. When selecting suitable measures, two groups of factors have to be taken into account:

- Theoretical factors: so as the indicator adequately conveys the actual meaning behind the concept;
- Practically applicable factors: the purpose is to identify a relatively small number of indicators, which comply with the theoretical considerations and are feasible, comprehensible and easy-to-use.

Until now, some aspects of the „competitive advantage” concept were interpreted differently and ambiguously by various authors. Meeting the objective that has been set out for this paper will require:

- (1) identifying the main aspects that help to define the overall „competitive advantage” concept through comparing and contrasting the beliefs of different authors;
- (2) identifying the appropriate indicators necessary for the analysis of the content of the primary structures included in the definitions of competitive advantage.

In line with the achievement of the desired objective is the prevalent basic sci-

entific (research) method of theoretical analysis and scientific synthesis. The definitions of competitive advantage proposed in the scientific literature are analyzed retrospectively in order to trace down the concept’s central aspects and the key structures it is built upon. The analysis of the contents of these key structures, namely „value for customer” and „value for owner”, as well as the comparative review of indicators proposed earlier, are the basis for identifying a measurement indicator of competitive advantage.

## Concept of „Competitive Advantage”

The interpretations of the competitive advantage concept by different authors result in unclear or ambiguous messages. Some of the researchers use the concept as a synonym for a better, superior financial result of the organization (Peteraf, 1993, Ghemawat & Rivkin, 1999, Foss & Knudsen,



2003, Hoopes, *et al.*, 2003). There are others who define the advantage as the presence of such characteristic features of the organization itself or its strategy, as to ensure the exceeding of its financial results (Porter, 1980, Ghemawat, 1991, Barney, 1991, Peteraf & Barney, 2003). Therefore, the primary aspects of the definition of competitive advantage should be developed prior to the advancement of its appropriate measurement indicators.

Collins English Dictionary defines the concept of „competitive advantage” as an advantage based on success in competition. The focus here is on the comparative nature of the accomplished result (success), with the measurement indicators yet to be clearly determined. Taking into consideration the precise meaning of the separate words that constitute the concept seems to be a helpful aspect towards its clarification. Webster’s Dictionary specifies that „*the advantage is the superiority of position (i.e. result) or condition (i.e. pre-*

*requisites for the result), or as a benefit resulting from a certain course of action*”. „Competitive” is defined by Webster’s Dictionary as „*relating to, characterized by, or based on competition (rivalry)*”.

In a specialized business dictionary, the author found in the following definition for „competitive advantage”: „*a superiority gained by an organization when it can provide the same value as its competitors but at a lower price, or can charge higher prices by providing greater value through differentiation*”. Competitive advantage results from matching core competencies to the opportunities. The definition above examines competitive advantage in the light of the adopted generic competitive strategies (differentiation and cost leadership) or indicates primary courses of action that could bring the desired superiority to the organization.

The aforementioned definitions provide some guidelines regarding the concept under consideration while raising issues that have not been clarified or still subject to controversy:

- on one hand it’s clear that the concept of „competitive advantage” has a *comparative* character and the comparison refers to the organization concerned against the competitive one(s); on the other hand, there remains the question as to whom the organization compares to – to all competition, to the best competitor or to a particular group;
- undoubtedly, superiority is associated with specific measurement indicators (position, financial result, benefit, value etc.); the most commonly cited measurement indicator refers to the result of a certain action or behavior, which is to suggest that the advantage is defined by the result itself. There are also differences of opinion referring to „whom”





the created value is intended for – the consumer or the owner/shareholder, and referring to the appropriate measurement indicator for the created value.

However, the presence of ambiguous problems or matters of controversy is said to stir up the interest towards examining, comparing and contrasting the existing different views among various researchers.

Placing competitive advantage at the center of company performance, Porter dedicates his book *„Competitive advantage“* to the ways in which companies are able to create and sustain their advantage in the industry they operate. Thus, for Porter, competitive advantage stands for lower costs, differentiated offer or successful realization of focus strategy (Porter, 1980). Moreover, he points out that „the competitive advantage grows fundamentally out of the value that a firm is able to create for its buyers by exceeding the firm’s cost of creating it”. Although the definition focuses on the value for the consumer, comparing that value with the costs incurred by the company,

in fact, refers to obtaining a financial result for or to the benefit of the owners/shareholders.

Barney observes that „a firm is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors” (Barney, 1991). The definition clearly shows the author’s strong determination in relation to the object the company compares with, that is – with all its competitors.

Peteraf defines advantage as „sustained above normal returns” (Peteraf, 1993). Besides proposing an advantage measurement indicator, the author also includes, by default, the need for the sustainability of that advantage („sustained returns”). Ghemawat and Rivkin also believe that the focus should be on maintaining the advantage over a long period of time. They relate the advantage to the superior financial returns within the industry (or the strategic group) over the long run (Ghemawat & Rivkin, 1999).

According to Besanko, Dranove and Shanley, competitive advantage is consistent with better financial results in a particular market: *„When a firm earns a higher rate of economic profit than the average rate of economic profit of other firms competing within the same market, the firm has a competitive advantage in that market”* (Besanko *et al.*, 2000). Concurrently with the establishment of the boundaries of which the advantage is to be examined (market instead of industry), the authors also suggest its measurement indicator: the economic profit.

Hoopes, Madsen and Walker view advantage as a performance surpassing the performance of their competitors. Taking into account the value, price, and cost (VPC) framework, the authors prove that

„the firm that produces the largest difference between value and cost has an advantage over rivals. It can either attract buyers due to the better surplus its product offers ( $V-P$ ) or make a higher profit ( $P-C$ ), or both” (Hoopes *et al.*, 2003). Studying this definition more closely and carefully, we can discern two important points:

- the ways in which advantage can be obtained – either through the delivery of higher value or through lower costs;
- the addressee of the value – more value that the consumer receives for a given price ( $V-P$ ), or higher profit for the owners ( $P-C$ ). Hoopes, Madsen and Walker do not exclude concurrent achievement of higher profit and more value for the consumer.

The answer to the question „Who are the intended beneficiaries of the value – is it intended for the consumers or for the owners”, turns out to be of concern for a large number of authors who have chosen to focus their research on systematically investigating the competitive advantage. Pietersen states: „Let me pose a question. In attaining competitive advantage, which is more important: providing unique benefits for customers, or achieving superior operational effectiveness?” (Pietersen, 2010), and continues: „This question is a trap. Clearly, the one without the other (at least to some

degree) is not the answer. The temptation is to say both and be done with it. But while both are true, that answer is incomplete and therefore is misleading. Doing both is obviously necessary, but it's not sufficient. The real answer is that competitive advantage lies between the two. It's the gap that says it all”. The way Pietersen defines advantage is as follows: „the competitive advantage means to obtain such a difference between the value the consumers perceive in your product and the costs you have incurred to provide the product that is bigger than the difference of your competitors”. Thus, we can agree with the stated proposition that obtaining value for the consumer and not achieving value for the owner or vice versa rules out the achievement of competitive advantage and, therefore, we can conclude that crucial for the competitive advantage is not only the value for the consumer but also the value for the owner.

Barney and Hesterly define advantage in a way similar to that discussed previously in the paper, namely: „The firm has a competitive advantage when it is able to create more economic value than rival firms. Economic value is simply the difference between the perceived benefits gained by a customer that purchases a firm's products or services, and the full economic costs of these products or services. Thus the size of a firm's competitive advantage is the





*difference between the economic value a firm is able to create, and the economic value its rivals are able to create” (Barney & Hesterly, 2006).*

Searching for the clarification of the different aspects of the concept of competitive advantage in theoretical terms and for its practical measurement indicator, we would also like to reflect upon the definitions we have found in some more practice-oriented sources”. „The Almanac of Competitiveness” edited by the Bulgarian Ministry of Economy (2007) states that „*A company is believed to have a competitive advantage over the other companies when it makes a profit that is greater than the average profit in the corresponding industry*”. An online platform for strategic management training for small and medium-sized enterprises offers the following definition: „*A firm is said to have a competitive advantage over its competitors when it maintains returns that surpass the average in its industry*”. The definition is worth recognizing the fact that advantage is seen as a long-term result (maintaining returns), rather than a mere snapshot of the current situation.

What makes the previous two definitions useful is that they not only offer an easy indicator of measurement of advantage, but they also specify the reference point for comparison. Assuming that the comparison should involve all competitors, then the average value of the selected

indicator in the relevant industry should be used as a benchmark.

The review of the definitions brings us to the following conclusions regarding the precise definition of competitive advantage:

- 1) it is related to the *creation of value* – important are both the value created for the consumer, and the value for the owner/shareholder. In the definitions themselves, an explicit reference is made either to words such as „profit” and return”, or to the value surpassing the costs for its creation;
- 2) later definitions of „advantage” refer to the end result (benefit, value), rather than the ways in which it can be obtained;
- 3) the advantage is a comparative concept and involves comparison with the competitors in the industry being analyzed;
- 4) the bearer of the advantage is the organization and it is at this level that the analysis should be carried out;
- 5) most definitions of advantage regard sustainability as its internal, inherent feature; in other words, the advantage is not such if it does not imply sustainability.

Having in mind the above outline, we can draw the conclusion that from a theoretical point of view, we need measurement standards which report both the value for the owner and the value for the consumer that a particular organization

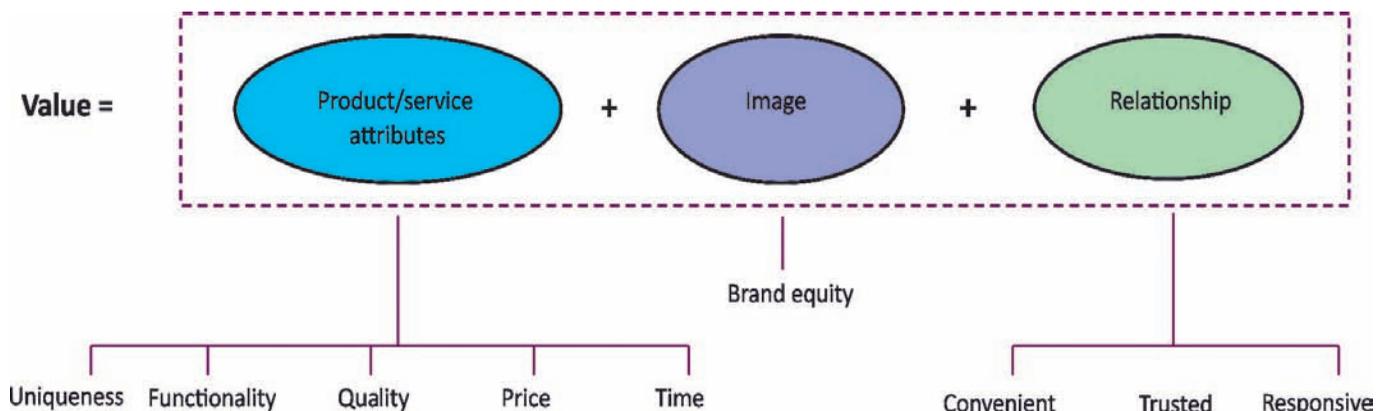
continuously creates and maintains. In order to determine the size of advantage, we need measures applicable to both the particular organization, and the sector as a whole. Thus, the difference between the quantity of respective indicator for the investigated firm and the average quantity of the same indicator for the sector will give the size of the competitive advantage.

## Measuring the Competitive Advantage

The definitions of competitive advantage in some cases propose indicators for its measurement. Nevertheless, finding the appropriate indicator remains quite a challenge, both to the theory and the practice. It has been stated that the advantage is associated with the creation of *value for the consumer*, on the one hand, *and for the owner*, on the other. The discussions referring to the nature of the value itself, its components and appropriate measurement indicators fail to reach a unanimous

agreement. „*Value is the overall economic base concept and yet it has no commonly agreed definition*” observes Kasarova, stating that it (the value) „*is much more a vision of the market as regards the benefit, received by the owner of one or another asset, which is formed on the basis of accessible information and is used for making decisions or solving concrete managerial problems*” (Kasarova, 2009). Defined as the „*vision of benefit*”, it reflects the subjective character of „value”. To support her belief about the subjective character of the concept, the author indicates that „*each of the parties interested in the development of the company has its own conception of the value and to this effect – its own idea about the activities which «add value», «destroy value» or are «value neutral»*” (Kasarova, 2009).

Kaplan and Norton (1996) divide the attributes composing the value from the consumer’s perspective into three categories: product/service attributes; image and reputation; customer relationship (Figure 1):



**Figure 1** – Elements comprising consumer value

(Source: Kaplan, R., Norton D.P., 1996)

Nowadays, the approved twofold meaning of value is stipulated by Kehayova (2002), who in support of her opinion refers to a Business English Dictionary for the meanings of value, namely:

- (1) the amount of satisfaction that is obtained from a product or service;
- (2) the amount that can be obtained for something by exchanging it for money or goods.

While satisfaction as a subjective quantity is quite difficult to be measured, the second meaning outlined in the dictionary, „the amount obtained by exchange”, provides the grounds to look more confidently for measures of the value/advantage for the customer in the accounting data. Therefore, the amount obtained in exchange equals the realized sales revenue recorded in the company's profit and loss statement.

Since it is hard to measure the consumer perceptions of the products' value, the problems arise at determining the total costs related to the manufacturing and sales of the product, too. The reported data gathered in the firm do not often distribute all costs at related products. Therefore, associating certain costs with a particular product often causes difficulties.

Despite the challenges related to measuring the firm's competitive advantage, two relevant approaches are discussed in the literature (Barney & Hesterly, 2006):

- (1) the advantage is measured by means of the firm's accounting performance;
- (2) the advantage is measured by means of the organization's economic performance.

The main difference between the two approaches is incorporated in the structure of costs which are considered when accounting and economic profit is calculated. The former does not take into account an important element of costs – the costs related to gaining capital. Thus, the economic profit is obtained by deducting capital expenses from the accounting ones

(Kasarova, 2009). They constitute the rate of return the company promises and/or is able to provide to investors/creditors. They are measured by means of the average weighted cost of credit and the price owners of firm's equity expect – WACC (weighted average cost of capital). Therefore, the economic profit has an effect on the interests of two essential stakeholder groups – the owners and the creditors. If they are satisfied to a great extent, they are interested to contribute more to the business. In turn, the business, having been provided with accessible financial resources, will have better possibilities to develop.

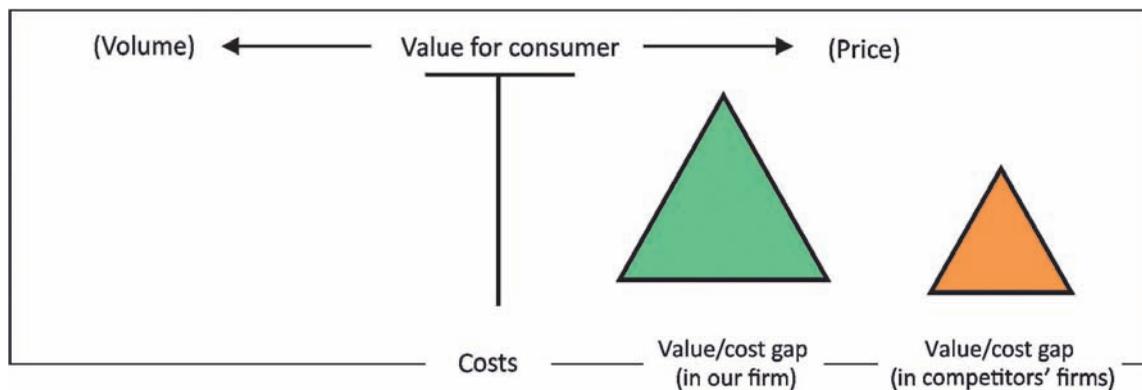
This is how Barney and Hesterly explain the adequacy of using the economic profit as a measure of competitive advantage (Barney and Hesterly, 2006). At the same time, the two researchers render an account of difficulties in using this measure. It concerns mainly the companies whose capitals are not subject to public trade. Bearing this in mind, the cost of equity is difficult to be determined. The main advantage of the accounting measures is their accessibility and convenience at use. Barney and Hesterly propose four groups of financial ratios for measuring the competitive advantage, namely: profitability ratios;

liquidity ratios; leverage ratios; activity ratios. The authors suggest that these indicators should be compared to the average for the industry: above the average – the firm has a competitive advantage; around the average value – the company has competitive parity; below average – the firm has a competitive disadvantage (Barney and Hesterly, 2006).

In order to combine the advantages of economic measures with the convenience of applying the accounting ones, the link between the economic and accounting measures could be of particular interest. Barney and Hesterly inform about research showing a strong correlation between the two types of measures of competitive advantage. The firms which have good rates of economic return usually have accounting indicators above average in their sector. The ones which have unsatisfying rates of economic performance are more likely to possess a value of accounting indicators below the average in their sector (Barney

and Hesterly, 2006). This gives us grounds to think that the further use of more accessible accounting indicators will give us reliable information for the competitive advantage obtained by firms.

Accepting the accounting figures as a practical and to a great extent a feasible measure of competitive advantage, we need to analyze the definitions of competitive advantage in order to find the most appropriate accounting indicator for measuring the competitive advantage. Most of the discussed definitions consider it as the difference between value provided to the consumer, and the costs incurred for its creation, which needs to surpass the competition. In other words, we need measurement indicators for the consumer value of the company's products, the costs for its creation and the difference between the two. These three elements are present in the Pietersen's figure which describes the competitive advantage (Figure 2):



**Figure 2** – *Measuring the competitive advantage*  
(Source: Pietersen, 2010)

The key aspect, according to Pietersen is that „there is a dynamic interaction between value, price, and quantity. Value is the leading element, the driver. Price and quantity are derivatives of value, they do not exist independently. Therefore, if you want to measure the quantity of the created value,

look at its derivatives: price and quantity. They are the determinant measures of the value you create”. Pietersen explains his opinion with a „ruthless” logic: the consumer will buy larger amounts or pay a higher price only if they see more value in the particular product, as compared to



the competitors' alternative ones. In case the value becomes lower, the pressure will be exerted on both price and quantity; and one of them or both will decrease (Pietersen, 2010).

Following the above logic and directives, we again come to the conclusion that „sales revenue” is an appropriate measure of the value which the consumer sees in the organization's product. However, in order to be able to compare firms having different scales of operation, it is appropriate to select relative rather than absolute indicators. We consider that „the variation (growth/decrease) of sales revenues” of a particular company for a certain period is an appropriate relative measure, which can be compared to „variations in sales revenues” in the sector for the same period of time. Taking into account the change in the consumer rating of the obtained value, this indicator gives clear reference points about whether the respective company satisfies the consumers better than the competition (it has an advantage compared to

them) or performs worse than the average level in the sector (has a disadvantage).

When discussing *owner's value*, we should render an account of the expenses the organization has incurred in order to create value for consumers. We have already discussed the content of accounting and economic profit obtained after the deduction of costs. However, when a comparison between different firms with different scales of activity and sizes of invested funds is required, it is not the profit which is the appropriate indicator. Profit is an absolute indicator, while the return on investments is a relative indicator and it incorporates profit in its calculation, recommending it as a more appropriate measure.

Finally, we can point out that the competitive advantage is not considered as a snapshot of the situation, but as a long-term state. In other words, sustainability is an inherent characteristic of competitive advantage. This calls for considering the outlined competitive advantage indicators for a longer period of time. Pursuing both higher than average return on investments for a longer period of time, and a steady revenue growth „safeguards” organizations against decisions and actions which can affect the long-term development of the company.

## Conclusion

The generated review of competitive advantage definitions allows us to analyze the main theoretical considerations in the pursuit of an appropriate competitive advantage standard of measurement. Our practical reasons were that the information required to measure competitive advantage should be easily accessible and the indicators should be calculated both for the specific company and for the whole sector.

Having put forward the arguments for „sales revenue” as an appropriate measure of the value for the consumer, and for „return on investments”/profitability as a suitable measure of the value for the owner, we can consider that we have a useful measurement standard for the competitive advantage.

The outlined indicators will be particularly useful in studying the sources of

competitive advantage, and the opportunities to create and maintain it for a longer period. Having on-hand indicators which allow measuring the competitive advantage makes it easier to study the relation between the competitive advantage and its drivers, while the research findings become more measurable and more eloquent.

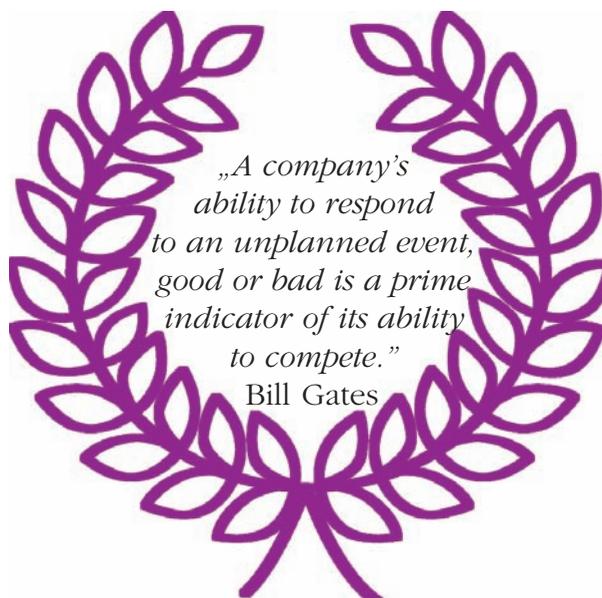
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# Resources and Sustainable Development

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Abstract

*Since the end of the Second World War, the evolution of agricultural production systems has been characterized by the adoption of agro-industrial development models. On one hand, this has enabled the achievement of important results in terms of agricultural productivity and access to food; on the other, it has led to productive systems that highlighted serious global problems such as malnutrition, food wastes and food losses, oligopolies in key sectors (for example, productive factors), environmental sustainability problems. The aim of this paper is to underline that in order to satisfy the new food requirements resulting from the expected demographic evolution, we don't need to access new resources, but to responsibly use the existing ones. As a consequence, a deep reconsideration of the current patterns of agricultural consumption and consume needs to be developed and implemented.*

**Keywords:** food consumption patterns, sustainability, livestock farming

## Introduction

The environmental sustainability of human activities, food security, humans and other living beings' health and well-being are global issues to be successfully resolved in order to ensure a future for the human presence on Earth. To this end, on September 2015, a number of 193 United Nations (UN) member countries have adopted Agenda 2030, an Action Plan based on 17 Sustainable Development Goals (SDGs). Many of the current challenges which are the basis of the problems affecting the





human race and were inspiring the SDGs have their origin in the agro-industrial and nutrition systems. The testament of this is the fact that the Food and Agriculture Organization of the United Nations (FAO) is proposed as the „custodian” of the UN agency for 21 indicators and 7 goals and as a contributing agency for four more.

The current challenges of the agro-industrial productive systems found their most manifest expression in the paradox given by the simultaneous presence of: 1.3 billion people who have problems accessing food, of which about 800 million chronically undernourished (FAO, 2017); 1.5 billion people who are overweight or obese (WHO, 2016); food waste squanders about a third of world food production (WRAP, 2015); serious problems of environmental sustainability, ranging from the reduction in soil fertility to water management and greenhouse gas emissions.

The factors influencing this situation include the agro-industrial development models of the last 20 years. Since after the Second World War, agriculture developed focusing on increasing productivity, which in turn was an expression of the intensification of the relationship between socio-economic components. An example can be the growing dependence of farming's

upstream and downstream sectors on the purchase of production factors and transfer of products, respectively; another example is the reduction of labor and of use of land for farming, which has accompanied the socio-economic development everywhere. The increase of agricultural productivity has undoubtedly served to meet the food requirements of an ever-growing world population, ever more concentrated in cities and ever less employed in agriculture.

However, there is no doubt that the agro-industrial models that have been employed up to now to support the agricultural development have not only determined a strong increase in productivity but also, the deep alterations of agriculture's typical characteristics (Anderson, 1987, Ruttan, 1984). In particular, agriculture has been forced to comply to industrial logic, simplifying its activities and production techniques, which more and more often pushed towards a single product and a single way to farm it. It is no accident that one of the main characteristics of the agro-industrial models is that they are founded, all over the world, on monocultures, which in turn is characterized by great uniformity, both of the factors used and for the products obtained. Because of this, agriculture has been forced to become decontextualized from its environment and to give up its main characteristics and needs, i.e. to base its production results on a balanced use of available resources, not on exploitation (Vieri, 2012). Thus, it has become unavoidable that where farming has complied more strictly to the industrial conduct, it has also ended up as being more subordinated to the objective of profit of the sectors it submitted to and being less able to grow its development on the basis of its needs and characteristics (Vieri and Calabrò, 2014).

Although it has involved all the agricultural activities, the industrialization phenomenon has been particularly relevant for livestock production, which has played a key role in the current agro-food development models. Notwithstanding this pattern has long shown economic, environmental, social and healthy limits (Rifkin and Wheelock, 1992, FAO, 2006, Nierenberg, 2006), as both the agricultural development and the possibility to feed the world's population continues to depend on the livestock production.

As well known, the population growth, the income growth, the urbanization and changing the diets are seen as the main drivers of increased demand for agricultural production over the coming decades (Grace, 2016). With reference to these drivers, the forecast for 2050 envisages a growth in: population, which is set to increase to 9.7 billion people (UN, 2015a), income-level, especially in the Asian nations with an incidence on Gross Domestic Product (GDP) from 32% to 53% (The Economist, 2015) and urbanization level, that is expected to increase from the current 48% to 66% (UN, 2015b).

According to the FAO, just satisfying the expected food and feed demand will require a substantial increase in the global food production of 70% by 2050, involving an additional quantity of nearly 1 billion tons of cereals and 200 million tons of meat (FAO, 2009). It follows that much of the increase in cereals demand will be for animal feed to support the growing consumption of livestock products; consequently, the principle stating that the balance between human needs and natural resource requirements will depend, to a significant extent, on what we do with animal production is still pertinent (De Haan *et al.*, 1996).

The consumption of animal products is related to the level of economic development and therefore to variables such as *pro-capita* income and urbanization-level which have a significant impact on the patterns of food consumption. This is a not linear link, and it is tending to significantly weaken when the consumers make their choices not only according to their income but on the basis of the new sensitivity and expectations that they gained due to the socioeconomic development. This is certainly the case of the developed countries, where consumer behaviors refer to the so-called „satiety based society” (Malassis, 1997). According to this pattern, for the purpose of consumption, the importance of income is reduced, while the importance of the socioeconomic variables is increased. This means that consumers are more sensitive to the environmental, ethical and healthy characteristics and consequently, they are looking for products able to meet their needs which are increasingly conditioned by intangible requirements.



As a result of these new consumers' sensitiveness and expectations, changes in the governments' activities were determined. It is significant to emphasize the change in the United Nations position, which in 1950 claimed that „the intensification of animal production was seen as a way of providing food security”, while, fifty years later, the UN considered as being unsustainable the „factory farming based on a narrowly-defying use of land, relying on mechanization, chemicals and other synthetic inputs, controlled by a few multinational interests” (United Nations, 2000). Just as relevant, the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) has evaluated the carcinogenicity of the consumption of red meat and processed meat only in 2015, after red meat consumption increased by 70% worldwide, by 55,6% in developed countries and by 209,8% in developing countries over the last fifty years. In particular, IARC has classified the consumption of red meat as probably carcinogenic to humans, while the processed meat

was classified as carcinogenic to humans (WHO-IARC, 2015).

That just shows how, although the consumption of animal products is growing in developing countries and in transitional economies, after the experiences in developed countries, measures are necessary to prevent known and not positive situations and to encourage the adoption of more sustainable behaviors than in the past. Although the intensification of animal production is not necessarily associated with the industrialization process (Grace, 2016), it is certain that much of the current livestock production has a high level of industrialization.

For example, the feed production is highly dependent on transgenic raw materials (seeds and agrochemicals), namely a form of strongly industrialized monoculture agriculture, dependent on multinational producer companies. In fact, six multinational producer companies own the totality of genetically engineered (GE) seed market and 80% of the agrochemicals one. This means that, on a global scale, a significant proportion of the agricultural production and food is under their control.

To confirm the above-mentioned dependence, we have to consider that:

- In the principal producer countries, most livestock producers use corn grain and soybean meal as energy and/or protein source both for feeding ruminant and monogastric animals;
- A percent of 99.6% of the genetically modified crops (about 180 million hectares) consists of soybean (51.2%), corn (30.1%), cotton (13.4%) and canola (5.0%), whose products (oil seed meals) are directly or indirectly used in animal nutrition;



- The main producers and exporters of soybean, oil seed meals, corn, cotton and canola are mostly affected by the presence of Genetically Modified Organism (GMO) and their adoption level of GE cultivation is more than 90% (ISAAA, 2016);
- Over 70% of the world's farm animals are now factory farmed, including an estimated 99% of US farm animals (FAIRR, 2016, Anomaly, 2014).

As for the above, it seems evident the central role that livestock production has on the current agricultural productive systems; this role can be considered the result of a growing and, in all probability, irreversible addiction of livestock supply chain to productive factors provided by the players operating in oligopolistic practice.

It is important to note that these critical issues, although traceable to livestock production, cannot be attributed to it only. In fact, it is evident that what happens in the livestock sector is a demonstration of the limits showed by the current agro-industrial development patterns in economic, environmental and food safety terms.

## The Role of Livestock Production

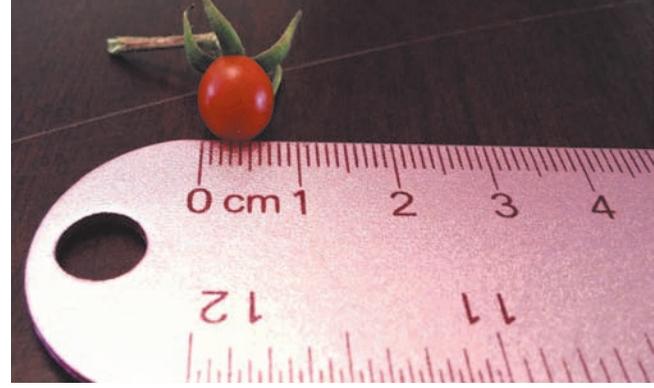
The serious inefficiencies caused by the distortions of current agro-food development models have created issues such as food waste and loss, unsustainable agricultural practices and the inadequate food systems' capacity to sustainably supply nutritious food to a growing population. It follows that the incidence of livestock production in relation to these problems can be considered proportionate to the importance it has as part of global agro-industrial systems.

In particular, the most relevant issues regard food losses and wastes, sustainability



and food safety. Although the issue of waste has been known for a long time, the attempts to quantify it are very recent. In this sense, the first and most significant attempt has been that of the FAO in 2011, with the publication of a global report (FAO, 2011), followed by further studies to quantify the economic and environmental impact of food losses and waste.

According to FAO data, food waste and losses amount to 1,295 million tonnes in total, equal to about 30% of the global production, and are thus divided: 32,0% in the farming step; 46,3% in post-harvest; 21,7% in the consumption step. The losses and waste that occur in the various steps of the food supply chains have an annual cost of about 750 billion dollars, calculated on the basis of the prices at the production of the products. This method of calculation, as highlighted by the FAO itself, leads to a negative estimate of the real values, since they tend to increase along the supply chain and therefore cannot be calculated using the price at production. However, for retail prices – not prices at production as considered by the FAO – the estimated global cost (WRAP, 2015) is higher than the one estimated by the FAO (750 billion dollars) by at least 400 billion dollars a year.



This is calculated on the estimated value per tonne of food wasted: \$2,500 for USA, Canada and Europe, \$1,000 for industrialized Asian countries and \$550 dollars for all other geographical areas.

Regarding the individual products types, the largest losses and wastes in relation to the producing quantity are to be found in fruits and vegetables, tubers and roots and cereals (WRI, 2013). As it is shown in table 1, meat and milk sectors do not seem

to have an important incidence in food and wastes, both in terms of calories (7% and 4%, respectively) and quantities produced (4% and 8%, respectively):

**Table 1** – Share of global food loss and waste by commodity

Commodity	Loss and Waste by Kcal (%)	Loss and Waste by Weight (%)
Cereals	53%	19%
Roots and Tubers	14%	20%
Fruits and Vegetables	13%	44%
Oilseeds and Pulses	8%	3%
Meat	7%	4%
Milk	4%	8%
Fish and Seafood	1%	2%

(Source: WRI, 2013)

However, this doesn't mean that these losses are less relevant than that of other products. We must consider, in fact, that, at present, about 40% of the global agricultural production is intended for animal feed (Vieri and Calabrò, 2014).

It follows that, for a proper evaluation of milk and meat wastes and losses, consideration should be given also for agricultural products intended for livestock, because to be produced, lost or wasted food products need land, water, capital, labor and, more generally, power (FAO, 2013).

In particular, according to the FAO, about 28% of the farming land is used for crops which go lost. This in itself is critical enough but is made more so by the fact that every year in the world, about 12 million hectares of land are lost due to various phenomena of depletion (FAO, 2015a). It must be added that for the long

time necessary to its formation and considering our life spans, the soil is to be considered a non-renewable resource. The loss of soil is estimated to be at levels higher than 30 times its sustainability rate (Pimentel *et al.*, 1993).

Similar considerations can be made concerning the use of water. According to the FAO's data from its water information system (AQUASTAT, 2016), agriculture is the sector that uses the greatest quantity of fresh water (69%), while 19% is used by industries and 12% by municipalities. In this worrying scenario, the issue of resources and waste bears heavily, since according to the FAO, it is estimated that about 9% (250.000 m<sup>3</sup>) of water used in agriculture is destined to crops whose products end up lost or wasted.

As regards the capitals used in agricultural and food production processes, an

interesting element for synthesis can be the power used to obtain agricultural products and food. As a whole, agrifood supply chains absorb about 30% of world power, of which 70% is used in the steps after farming. It is estimated (FAO, 2012) that, together, the losses and waste absorb about 38% of the total power used by agrifood supply chains (equal to 11,4% of power available at a global level).

With reference to the chemical substances used in the production process, and therefore to the production factors which, in the case of lost or wasted productions, represent a useless release of pollutants in the environment, it is to be noted that both the use of pesticides and of fertilizers has increased. Particularly, from 1990 to 2014, the pesticides market has gone from little less than 46 billion dollars to over 55 billion dollars, and a further increase is estimated to 2018 (+2,6% a year) when it should reach 62 billion dollars (Phillips McDougall, 2014).

The use of fertilizers has significantly increased (FAO, 2015b). The use of the overall three macronutrients (nitrogen, phosphorous and potassium) has gone from 161,8 to 190,7 million tonnes from 1990 to 2014 (+19,1%), and a further increase (+5,1%) is estimated until 2018 when it should reach 200,5 million tonnes.



Besides the above-mentioned aspects, the effect of the losses and wastes on the sustainability of agrifood supply chains' production processes must also be considered as regards the greenhouse gases (GHG) emissions. The FAO estimates that every year about 3,3 million tonnes of CO<sub>2</sub> equivalent are produced due to losses and waste, equalling a quantity of GHG lower only to that released by China and the USA (FAO, 2013).

In the light of the foregoing, we consider that:

- About 19% of world wheat production, about 60% of the major feed grains (corn, sorghum, barley and oats) and more than 90% of oil seeds meal are intended for feed;
- About 37,0% of the caloric equivalent of the world farming production is used to produce feed. In terms of calories, its conversion to animal based products returns about 29,0%, but also considering the loss and waste, nearly 60% of the caloric equivalent of the products farmed for food is not consumed by man (Smill, 2004);
- We need 43,000 liters of water to produce a kilogram of beef, while for 1 kilogram of soybeans only 2,000 liters are needed and for 1 kilogram of potatoes are used 630 liters (Pimentel *et al.*, 2004);
- Agriculture is responsible for about 20% of global greenhouse gases emissions (FAO, 2016), most of which are attributable to livestock activities (UNEP, 2012) that, globally, are responsible for 14,5% of planet-warming emissions (more than the emissions from the entire transport sector);
- About 40% of the costs arising from malnutrition are globally generated by weight diseases (obesity) that account



for 2% of global Gross Domestic Product (GDP) and, in absence of promptly concrete action, these costs are likely to rapidly increase (Vieri and Calabrò, 2016);

- A significant proportion of agricultural raw materials used for feed originates from monocultures;
- Animal feeding strictly depends on GM cultivations, i.e. inputs under the control of persons operating in oligopolistic conditions.

It can be concluded that a revision of the current patterns of agricultural production is necessary in order to pursue better economic, environmental and social objectives.

## A Possible Adjustment to the System

Recent studies (Ranganathan *et al.*, 2016) showed how changes in food habits can have a positive influence in reducing the critical issues stated above. One model has been proposed in particular. The model contains different reducing scenarios regarding

the three main variables reflecting food consumption: the over consumption of calories; the protein surplus due to over consumption of animal-based food, and the excessive consumption of meat. The different scenarios were: the reduction of calories in order to reduce obesity and overweight; the consumption of fewer animal proteins in favor of vegetable ones; the increase in consumption of poultry, pork and legumes instead of red meat. On the basis of the obtained results by applying different scenarios, the effects included the possible better situation of 400 million to 2 billion people, as well as the recovery of about 630 million hectares currently invested in crops intended for animal feed.

It is clear that these trends can contribute to solving of reducing the main critical issues of the current agro-industrial systems. Eating less calories and animal proteins may positively affect the problem of overweight and obesity, while the reduction of crops intended for animal feed and livestock can encourage the conversion towards less intensive cultivations

and, as consequence, making a significant contribution to a better management of resources like soil and water, lowering pollution level and reducing greenhouse gas emissions.

The relation between changes in food habits through a lower consumption of meat, and policies to combat climate changes has been also highlighted in other recent studies who have demonstrated that the current level of greenhouse gas emissions can be cut by a third no later than 2050; the reduction could be as much as 63% if vegetarian diets spreads (Springmann *et al.*, 2016).

The Ministry of Health of the People's Republic of China has outlined a plan to reduce the internal meat consumption by 50% by 2030 (The Guardian, 2016). The measures are designed to improve public health, but they could also provide a significant cut to greenhouse gas emissions. This decision is particularly relevant because about 28% and 50% respectively of the world's meat and pork consumption is concentrated in China. Moreover, China is the country envisaged to become the leading economy in the world (The Economist, 2015) and the one in which the greater increase in meat consumption should happen no later than 2050. In this respect, we need to consider that the average meat consumption per person in China was 13 kg for the year 1982 and 63 kg for the year 2015, with the forecast growth to 93 kg no later than 2030.

The results of the above-mentioned studies and the Chinese government's proposal, although worthy of attention, should not lead to conclusions regarding the role of livestock productions in the context of agricultural activities. The incontestable criticalities that characterize the agro-industrial system at present are not only determined

by crops and livestock activities, but also by the development model according to which they have evolved over the last ten years.

The agriculture which is now predominant is increasingly characterized by monocultures and factory farming and can only give rise to unbalance because it loses its particular feature of basing its production result on a balanced use of available resources, not on exploitation.

It follows that notwithstanding the need to plan the agricultural development according to the presumable demographic evolutions, a more relevant issue would be how available resources are used. This implies that we must set up alternative development systems, different from the ones used until now. This is not primarily a problem of drastically reducing livestock farming, but ensuring that the model used is an agricultural one, not industrial.

## Conclusions

Since the end of the Second World War, agriculture has been mainly developing on the basis of industrial logics that, over time, contributed to the altering of the traditional relationship between agriculture and environment. The development of forms of cultivation and farming based on specialization and intensive methods of production has contributed to social, economic and environmental situations underlying the critical issues of current agro-industrial systems on a global level.

Current and further demographic growth and economic development are pushing for the increase of agricultural productivity and high-priced food consumption differentiation, especially for food of animal origin. In this context and in this perspective, livestock farming weights a lot in production clusters.



This situation is no longer sustainable for the future. In fact, the consequences of the increase and specialization of livestock farming have been: environmental problems (irresponsible use of soil, water, greenhouse gas emissions etc.), the expansion of monoculture for the production of raw materials intended for animal feed; a great dependency on the industry in upstream and downstream agricultural phases; problems of obesity and overweight and increment of related illnesses.

Recent studies have shown that a rethinking of current eating patterns, especially a reduction in meat consumption, can help to reduce the above-mentioned problems. In this regard, it is of particular interest the plan for the reduction of meat consumption introduced by the People's Republic of China. The long-term objective is not to abandon livestock farming, but to help it regain its natural context: the integration with agriculture, based on a responsible use of the available resources.

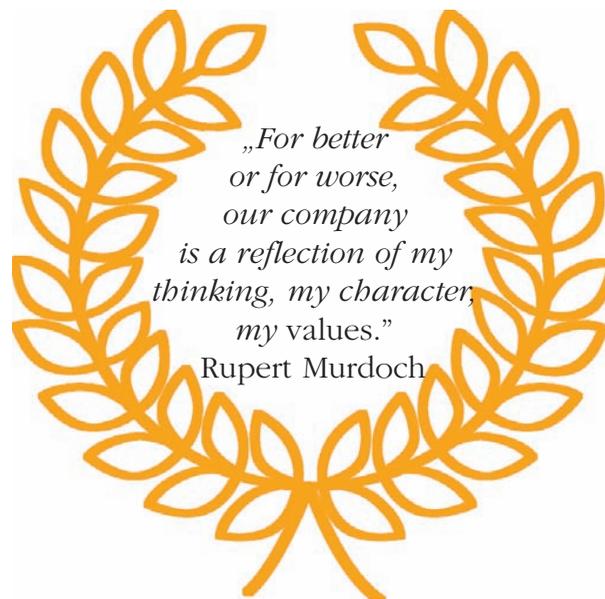


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# Organizational Process for Branding

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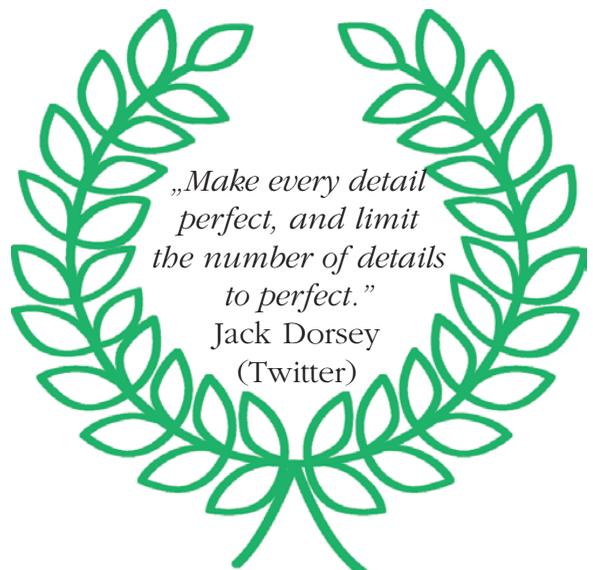
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Abstract

*One of the important processes of an organization which is tightly connected and interdependent with other organizational processes is the process of branding. There are few researchers addressing the branding process. Starting from the analysis of a company's brand and using the modeling process, the authors propose an effective model to improve the brand through strategic management. In the nowadays fierce competition, owning a place into the world elite companies can be done by redefining the company's brand and through a process of brand's continuous improvement. The authors propose in this paper a model of continuous improvement of the branding process in an industrial organization. Based on the interaction with other organizational processes, the model shows the steps in developing such a process improvement and shows how to solve punctual situations encountered. In organizations that use the process approach, branding has become a process integrator whose influence on other processes can be a determinant of the success or failure of the organization. The proposed model of the branding process allows a more accurate understanding of the activities underlying this process and of its implications, both inside the company and on the market in which it operates.*

**Keywords:** process approach, branding process, modeling process



## Introduction

The industrial research and innovation activity holds a significant share in the private sector, being a key factor for export activities. Major imbalances generated by the economic and financial crisis that started in 2008 have highlighted the importance of a developed industry in supporting any economy. Although studies have shown that the European Union's industry has shown a real potential in responding to difficulties arising from economic imbalances, the effects of the economic crisis within the sector are still felt very acutely. Thus, in the European Union after 2008 the number of jobs was significantly reduced (by more than 3 million), production and productivity enrolling on a downward trend.

Acquiring recognition and a good reputation are key elements for an upward trend. These objectives are part of a branding process that not only creates a positive image and differentiates but also allows, in time, the maintenance of a high-quality standard. Brand and branding process – as it will be defined in this paper may become key factors, necessary for changes that the industrial sector needs for its stability and sustainable development.

A study conducted in 2012 in order to analyze the value of Romanian brands emphasized that there are no fully successful national brands developed and administered by Romanian management. The characteristics of the Romanian market are highly different from those of the countries with a solid economic development, i.e. the concepts of „branding”, „market positioning” and „business performance” are redundant, as long as the single driver towards business growth is the existence of the product itself. Moreover, the branding



process does not retrieve immediate results, as the outcomes of an adequate strategy, i.e. a branding program, which enables the enterprises' long-term stability and performance, can be identified and quantified only throughout time.

**American Marketing Association (AMA)** defines a brand as: „name, term, sign, symbol or a combination of these, in order to identify the products or services of a company or group of companies and to differentiate them from the products or services of the competition”.

The accepted definition of the American Marketing Association does not make any reference to the contribution of value or the consumer's awareness of the brand have on its reputation on the market. AMA is restricted to what can be generically called „brand image elements”, i.e. those elements which distinguish the products name, logo, design, package (Keller, 2003).

The economic developments in recent years and the financial crisis further strengthens the idea that the most valuable asset of an organization is not its products, equipment, real estate values, but its intangible assets. The most valuable of these is the brand.

The brand, in essence, has several functions which are essential for the development of an organization. The first is the distinguishing function, marking the company's distinctive elements. For customers, brand simplifies choice, promises a certain quality, reduce risks and generates trust (Keller and Lehmann, 2003). The brand has an important role in determining if the marketing efforts such as advertising and distribution are justified. This is possible due to its construction which is based on product and its attributes; this is why the consumers' perception of the brand reflects the perception of the product.

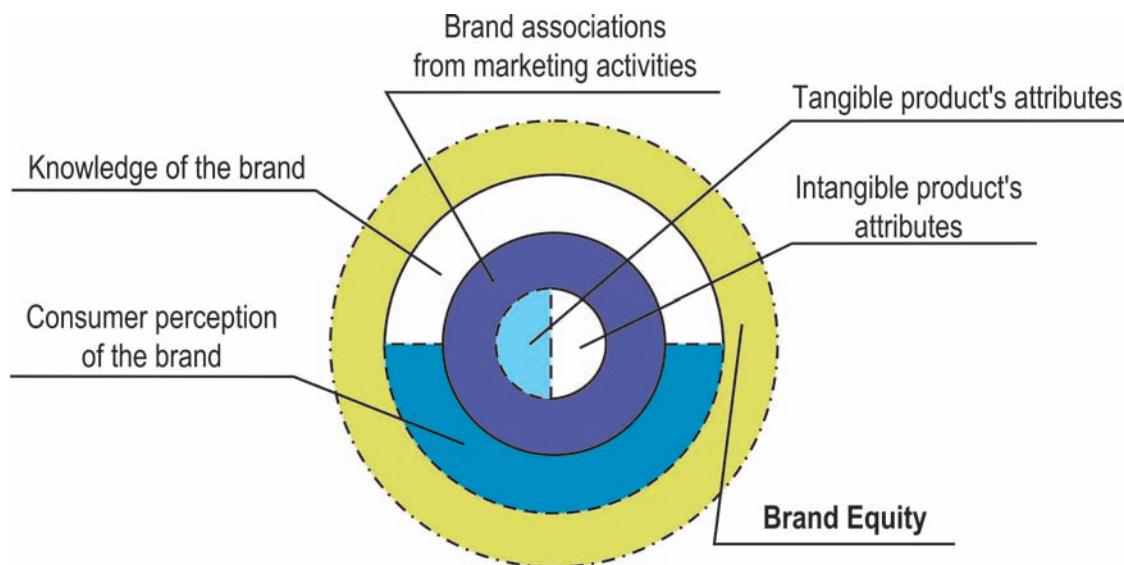
Quoting Kotler and Pfoertsch (2011), we can say that a brand is a promise; a brand is the totality of perceptions about a product, service or company; a brand holds a distinctive position in the minds of customers, based on previous experience and

expectations of future ventures; a brand is a summary of attributes, benefits, beliefs and values that differentiate, reduce complexity and simplify the decision-making process.

## The Process for Branding

The authors' conception (Negoită, Purcărea and Negoită, 2012a) on the brand as a generic concept consists of (Figure 1):

- Realizing the product/organization – name, logo, slogan, packaging, font, colors etc. Creating the visual identity.
- The brand itself – the consumer's perception, attitude, knowledge of the product/organization.
- The brand equity – contributions to the consumers' awareness of the product on the market and to the company's financial results.

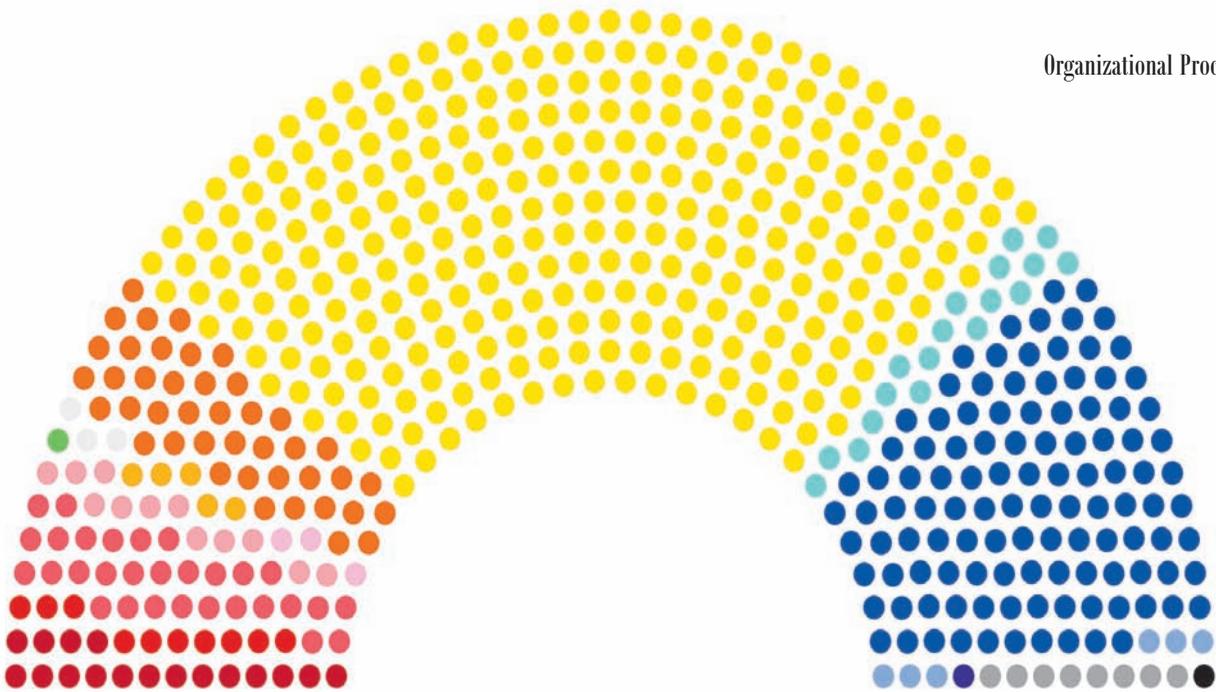


**Figure 1** – Representation of a brand – brand components

Kotler and Pfoertsch (2011) show in their model the relevant processes that lead to the construction of a brand reference: „brand building begins with understanding key product attributes and understanding and anticipating customer needs” (Figure 2).

The meaning of activities:

**Brand planning** involves creating a climate in the organization's management to develop a brand strategy, i.e. development of a branding program.



**Analysis** based on the brand market research – customer and competition analysis – but includes a process of self-analysis.

**Brand strategy** based on core brand values and its associations is described

by Kotler as „the arrangement and ordering number and nature of common and distinctive brand elements that a company applies everywhere in the organization”.



**Figure 2** – *The brand realization process*

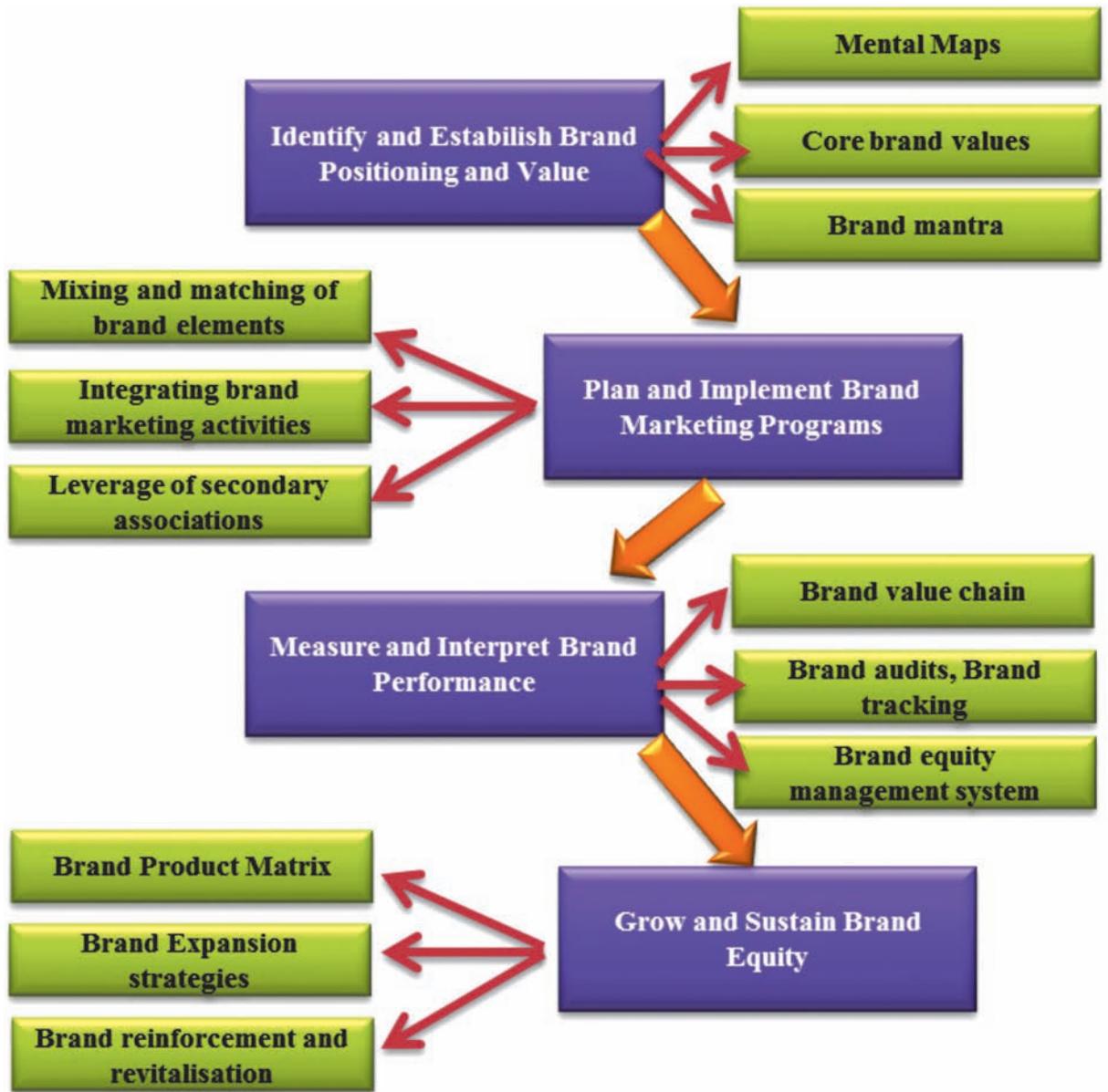
(Source: Kotler and Pfoertsch, 2011)

**Brand building** is a continuous process and refers to the design of the logo, slogan and all the elements which constitute the product's brand.

**Brand audit** is the process of identifying the strengths and the weaknesses of a brand. It results in the determination of the brand's scorecard, which measures its performance in relation to customer preferences.

The strategic brand management process developed by Keller (2007) involves four development stages (Figure 3):

- Identifying and establishing brand position and values;
- Planning and implementation of marketing programs;
- Measuring and interpreting brand performance;
- Increasing and sustaining brand equity:



**Figure 3** – *The strategic brand management process*

(Source: Keller, 2007)

## The Development of a New Branding Process

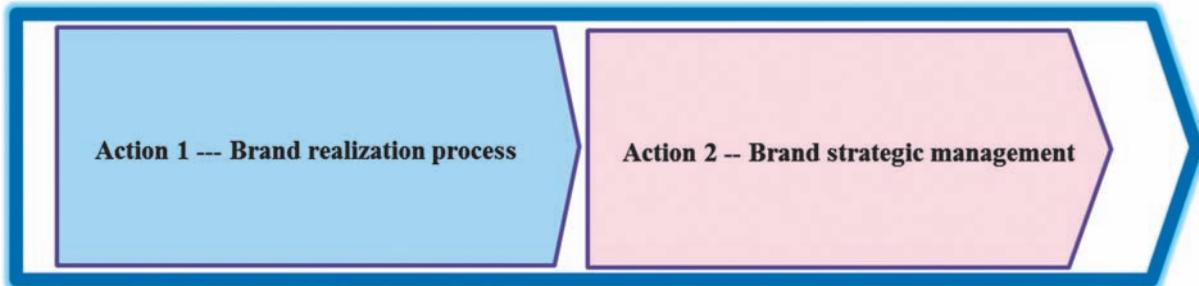
The idea that the successful achievement of the brand is limited to only creating its constituents is superficial and lacks vision. A brand is much more; the elimination of phases not only shortens the life expectancy of a brand but could also lead to losses for the company.

The brand building processes and the brand strategic management process are fundamental processes in the activity of any organization. These two processes are closely linked, and therefore we present them as one – the branding process, which constantly recreates the brand and aligns it with the external and internal conditions. In order to be performant, a brand must

continuously adapt to the realities of the organization's external and internal environment, consumer needs and financial realities.

Based on the literature review and on our experience with Romanian brands, the

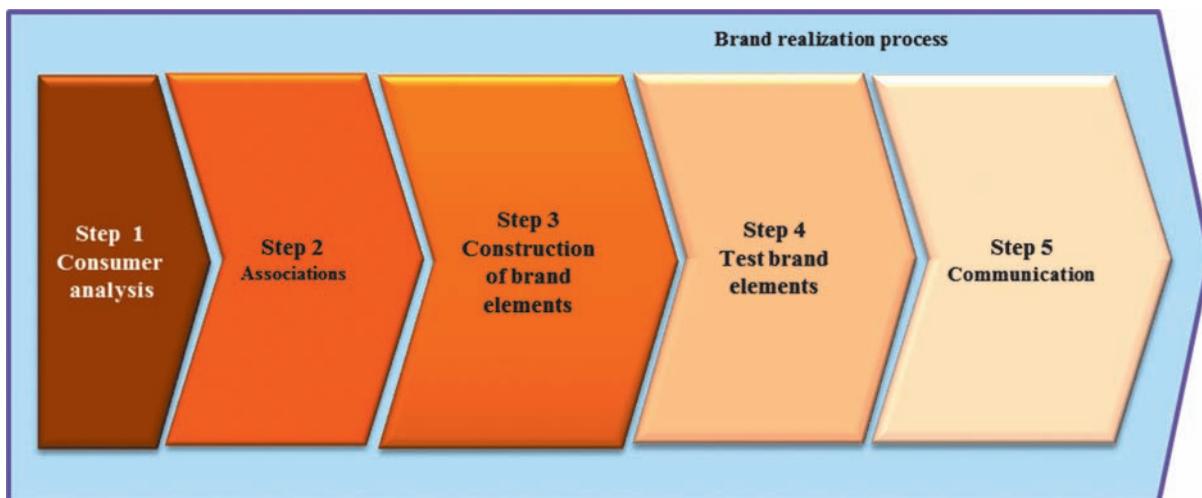
branding process model is presented in, integrating two independent processes: the process of brand realization and the strategic management of the brand (Figure 4):



**Figure 4** – *Branding process*

The authors considered that the implementation of the brand is based on both the art and science of the designer, going far beyond the creation of logo types, slo-

gans etc., and includes a process that has the power to influence the consumer perception and attitudes towards the product or company (Figure 5):



**Figure 5** – *Brand Realization Process*

**Step 1** – Analysis of the consumer behavior related to the product for which the brand must be built. The objectives of this stage are understanding the needs and expectations of the consumers and their mode of action. In practice, this means building a „portrait” of the target consumer and building the „bulls eyes target” –

describing a day of the target's life. It implies penetrating the mind of the consumers, trying to determine the reality that they perceive.

**Step 2** – Determination of the associations for the product features and those combinations that allow the connection between

the company values to the product's added value and consumers' values. Because attitude is learned, not instinctive, the role of this step is to guide consumers toward a favorable attitude to the product.

**Step 3** – Construction of brand elements: name, logo, USP (Unique Selling Proposition) = slogan, packaging, font, colors. All these are created based on the target customer profile and suggested pairings.

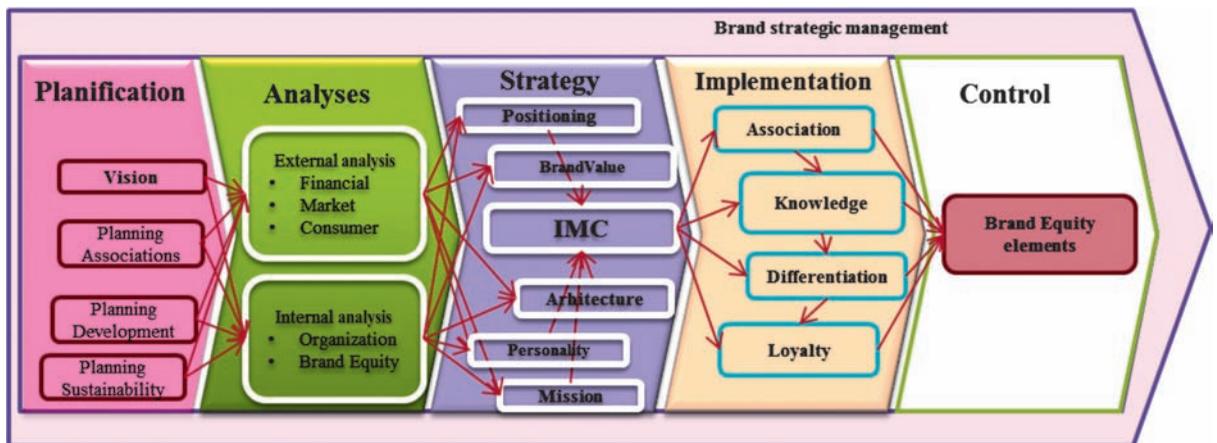
**Step 4** – Testing the brand items. In this stage of the analysis, the new brand that will be launched on the market is presented to the ideal consumer. Focus group is the most common and the most effective method for testing such a „product”.

**Step 5** – Construction of the consumer's perception. This stage is characterized by a focused action which integrates mar-

keting communication in order to transmit to the consumer the brand elements and its associations.

The strategic brand management process is a holistic process across the entire organization. For an organization to be successful for a long period of time, it is necessary to continuously identify opportunities for value – value exploration, to promise new proposals embodied in value – value creation, and not the least to send offers for value – value transmission.

Thus, the strategic brand management process becomes a process that can provide the long-term competitive advantage of the organization by creating brand equity that brings lasting value to the branding triangle: client, company, employees (Kotler and Pfoertsch, 2011), as shown in Figure 6:



**Figure 6** – Strategic Brand Management Process

An organization that treats its brands as strategic devices must conduct a comprehensive review process of marketing and brand planning to succeed in its efforts to support the continuous development of its brands.

The continuous improvement of the strategic brand management process is a long process, which is strongly correlated

with the development strategy of the organization and involves the whole company (Negoită, Purcărea and Negoită, 2012b). The brand planning activity within the strategic brand management process is an essential step in this process, one that managers often neglect. The brand planning should provide the whole picture of what the brand currently is, what it can

become and where can it get following a proper development plan.

## The Continuous Improvement of the Branding Process

The importance of the brand equity as an intangible asset implies the continuous improvement of the branding process. Therefore, the authors have developed a complex model which aims to support industrial organizations during their efforts related to brand management. As the current model comprises the required steps for developing such a process, it can be used by managers as a guide for attaining and maintaining a competitive advantage. In this regard, for developing an effective model for branding process improvement within an industrial organization with a specific orientation towards strategic management, it is mandatory to permanently assess the brand equity.

A crucial characteristic which the enterprise should take into consideration when analyzing the brand is its dynamic property, i.e. a brand evolves based on the internal and external factors; hence the ratio between the brand's strategic management process and the other processes in the organization also presents a dynamic behavior. When considering the strategic management process, its particularities should be clearly emphasized, as the brand's strategic management cannot be regarded as a sequential flow of activities only, having specific inputs and outputs based on standards.

However, the holistic view of the process remains a very important approach when analyzing the variations recorded by the organization's processes. These fluctuations determine significant changes not only in the product's attributes but also



in the perception regarding the company, hence generating an immediate impact with long-term consequences for the brand.

The continuous measurement of brand equity can be regarded as a method to continuously improve the business processes, which according to Negoită *et al.* (2012a) should be conducted on a constant basis in order to:

- Identify the proper manner for the brand to meet client's requirements;
- Identify the brand evolution against competition;
- Identify the brand's weaknesses before they materialize;
- Identify the opportunities related to the brand in order to enhance the added value.

Therefore, undertaking a thorough and constant analysis and measurement program regarding the market conditions, clients' expectations and perception and financial results is mandatory for the organization, as it has a crucial role during the enterprise's endeavors to fulfill its objectives.

The criteria to be met by the metrics are the following (Salinas and Ambler, 2009):

- The metrics should be easy to use – time economy;

- The metrics should quantify actions which can be adjusted – they should measure a business decision;
- The metrics should measure repetitively an activity – in order to obtain results regarding the activity’s evolution;
- The metrics should retrieve quantifiable results – in order to apply the benchmarking process, hence to compare the enterprises’ results with the competition or the proposed objectives.

The problem that most enterprises are confronting during this analysis is the mis-correlation of causal relationships between brand perception, brand performance, and financial results. A thorough understanding

of the key factors of the demand, as well as identifying the proper moment when the consumer-brand interaction triggers the consumer’s impulse to choose the brand over the competition, are some key elements for achieving the brand’s future success. Understanding this aforementioned causal relationship between perception, performance and impact generates the information and knowledge regarding the key activities which create value for the brand.

Munoz and Kumar (2004) have divided the metrics into three categories, as described in Table 1:

**Table 1 – Metrics used in brand quantification**

Metrics for brand perception		Metrics for brand performance		Metrics for financial performance
Knowledge	Familiarity and consideration	Acquisition decision	Loyalty	Value development
Are the consumers aware of the brand?	What are the consumers thinking and feeling regarding the brand?	What is the behavior of the consumers?	How has the behavior of the consumers changed in time?	How does the consumer's behavior impact the brand's value development?
Standing out	Distinction	Acquisition	Consumer's satisfaction	Market share
Brand awareness	Relevance	Influence	Retention	Profit
	Credibility	Trial	Win on the consumer	Operational cash flow
	Pleasure	Repeating acquisition	Share of wallet	Marketing budget share
	Perceived quality	Preference	Total values of consumer's acquisition (LTV)	Brand value
	Shopping intention	Premium price	ROI	Annalists' evaluation
	Resemblance		Reference	
			Cost saving	

(Source: Munoz and Kumar, 2004)

Therefore, during this process it is not enough to identify and plan communication tasks, but also operational, financial and strategic activities as follows:

- Connect the brand's metrics with the business strategy;
- Identify the strategic objectives which can be influenced by the brand;
- Determine the main processes which are influenced by the brand;

The indicators which are subject to permanent analysis are divided into three categories, each of them reflecting a specific characteristic of the efficiency of the brand's strategy: *Consumer, Market and Financial*:

#### **a. The indicators used for studying the consumers**

have been selected in order to retrieve a complex overview of their perception, behavior and degree of knowledge. Hence, for describing the *perception*, the following indicators were used:

- Notoriety – the share of existing or potential clients which were able to recognize the brand or an element of the brand;
- Attitude – the evaluation of the clients' attitude, i.e. the attitude of existing or potential clients against a particular brand;
- Perceived quality – the evaluation of the clients' attitude against the brand's quality.

Regarding the consumer's *behavior* towards the brand, the following indicators were taken into consideration:

- Brand penetration – the ratio between the clients who have purchased the brand at least once and the total number of clients within a particular market segment;
- The number of clients – the number of clients who have purchased the brand during a specific timeframe;



- Recent expenditure – the recorded time frame between two acquisitions of the brand by the same consumer;
- The rate of attracting new clients – the ratio between the number of newly attracted clients and the existing clients in a particular timeframe.

The *degree of knowledge* is quantified based on AAU index (*Awareness Attitude and Usage*).

#### **b. The indicators for the market analysis**

were identified in such a manner to allow for the continuous analysis and for the depiction of a complete and complex overview of the case. These metrics are structured in four categories: *Distribution, Competition, Volume, Price*. Therefore, *distribution* metrics include:

- *Numeric distribution* – number of stores in which the brand is distributed;
- *The quality of distribution* – the quality of distribution channels regarding a particular brand;

The *equity brand index* – allows for a proper quantification of the brand's position on the market against current competition.

The market *volume* index is defined by:

- *The market's total volume* – the total units sold by each active brand on the market;
- *Volumetric market share* – the ratio between the total volume of units sold by the brand and the total volume of the market.
- *The total quantity of sales* of a brand.

The price evolution of a particular brand (Krasnikov A., Mishra S. and Orozco D., 2009) is quantified based on the *relative average price*, i.e. the ratio between the average price of a brand and the average price of all existing brands on the market.

## Conclusions

In organizations which use a process approach, branding has become a holistic process which influences other processes and can be an important determinant of the success or failure of an organization.

The economic development and globalization have increased the value that brands bring to companies. The brand has become an intangible asset of the company that far exceeds the value of tangible assets. Brands are traded, and often brands are those that establish the price of a company. For a long time, the brands of industrial organizations have been regarded as insignificant. Experience has shown that large companies' brands, operating both in B2B and B2C markets gain an increasingly important role in creating long-term competitive advantage.

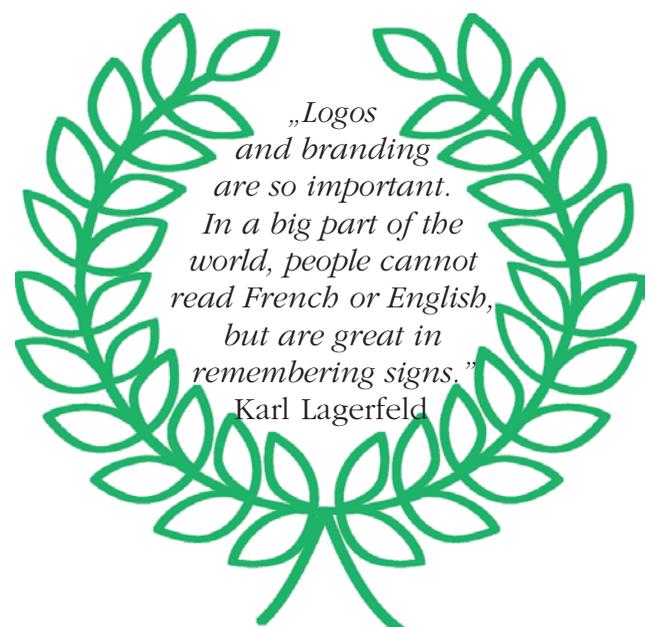
The conclusion is that branding is a process that touches all the important processes of the organization, being an essential element of progress.

The proposed model of the branding process allows a more accurate understanding of the activities underlying this it, having implications both inside the company and on the market in which it operates.



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# Modern Logistics Methods

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Abstract

*In today's business environment, sustainability is a trend which can allow companies to implicate social, economic and environmental pillars to the strategy and management of the company. In order to measure the performance of logistics, we need to take into consideration and determine the interrelationships between all the strategy pillars. A Multiproduct pipeline system ensures efficient and effective transport of large volumes of oil or raw materials from refineries to central warehouses and barges. In the pipe network industry, there are diverse optimization tasks during any period from design to operation. This paper analyzes the classic and modern models used by the oil industry, starting from the MILP linear programming (with one or more variables modeled), Petri networks, Monte Carlo simulations, neural models, Balanced Scorecard, Triangular Fuzzy Numbers in combination with Program Evaluation and Review Technique (PERT), FUZZY PERT algorithm and Analytic Network Process (ANP). The purpose of this analysis is to identify the optimal and effective models for planning and programming decisions in the supply chain, so that the final customer demand be satisfied at the highest level, in real time and at a lower cost. Moreover, the studied performance indicators/methods are fundamental managerial tools for decision-making in any type of organization.*

**Keywords:** Petroleum distribution, Mixed-integer linear program (MILP), Multimode transportation, Multiproduct pipeline, Multi-pipeline system

## Introduction

The oil industry has one of the most complex, advanced, modern supply chains in the world. It is vertically integrated, covering activities from exploration to product transformation in refineries and product distribution within a large logistic network.



It includes production, transportation, transformation into several refined products, and distribution to consumer markets. Planning the transfer of products from industrial units – refineries, to the central warehouse is one of the most important responsibility, but sometimes this task can be very challenging. In the petroleum industry, products are transferred by different means (trucks, trains, barges, pipelines). The detailed analysis proved that the use of pipelines is the most affordable and has a smaller impact on the environment and traffic when compared to other methods. Furthermore, a high proportion of petroleum products is typically transported by pipelines from refineries, before being delivered to customers by trucks.

The pipelines systems play an important role in this industry. Even though the initial capital investment required to setup these transportation systems is high, the operating costs are very low compared to other transportation modes such as rail and highway. Additionally, the final price of the product is directly related to its transportation cost, so the optimization of the

transportation process is one of the most important elements in this industry. This paper is proposing the presentation of the classic and modern models used for the optimization of the oil supply chain.

### **Classic Models Used by Oil Industry**

The research in oil transportation literature identifies various problems under several settings and assumptions. The simplest pipeline has one source, one destination, and one type of product to be delivered, e.g. the pipelines used in the transportation of crude oil from coastal ports to inland refineries. Furthermore, at the next level of complexity, the pipeline could have multiple destinations; and a more realistic pipeline would also handle multiple petroleum products treated in refineries, such as kerosene, naphtha, and gas oil (Sasikumar *et al.*, 1997). The oil industry is divided into three major sectors: the upstream, the mid-stream and the downstream. Each of these sectors takes into considerations the optimization of the supply chain in order to achieve two of the most important goals: customer retention and cost reduction.





For the upstream section, around the year 1962, it was developed a multi-period linear programming model for oil well production. The decision variables included the production rates for oil wells, the number of wells drilled, the number of rigs purchased, and the number of rigs in operation (Aronofsky and Williams, 1962). Later in 2002, another study analyzed a mixed integer optimization formulation for the good allocation/operation of integrated oil/gas production systems (Kosmidis *et al.*, 2002). During the year 1998, it was developed a multi-period mixed integer linear programming (MILP) for planning and scheduling the infrastructure and operations in offshore oil fields' facilities (Iyer *et al.*, 1998).

Crude oil transportation is also a vast domain for study. Mas and Pinto (2003) presented the oil scheduling in a distribution complex composed of marine terminals, storage tanks and pipelines with an MILP model. In addition, Chryssolouris *et al.* (2005) modeled the material flow of crude oil from port to refinery tanks and distillation units.

For the midstream sector, substantial work in the literature has been allocated to the decisions related to the processes inside the refinery such as refinery production planning and scheduling. Decisions related to the supply of process units, production, and refinery optimization have

been mentioned in several studies. For example, Lee *et al.* (1996) focused on the scheduling of crude oil supply on the short term for a single refinery. Pinto *et al.* (2000) modeled the production scheduling for several specific areas in a refinery such as fuel oil, crude oil, LPG and asphalt. Pinto and Moro (2000) focused on production planning in a refinery. Another study (Ponambalam *et al.*, 1992) solved a multi-period planning model in the oil refinery industry.

For the downstream sector, at the strategic level, the literature presents a lot of modeling and scheduling programs. The main goal of these studies was to design the oil supply network and determine the material flow. The mathematical programs apply to the distribution of products, optimization of the transport of products from the refinery to the final client, and sometimes consider the storage and blending (Fiorencio *et al.*, 2014). Sear (1993) published the first study which analyzed the supply chain management and logistics in the downstream supply chain. The author created a linear programming model that involved crude oil purchasing, transportation to the depots and final clients, by considering different costs at each stage. For the downstream level, there were designed models which studied a mixed-integer programming model in order to minimize cost in the strategic planning of a multi refinery network and to develop a methodology for integrating production and capacity expansion using different feedstock. Ross (2000) created a profit maximizing supply network model in the downstream oil supply chain by focusing on performance planning through resource allocation. Kim *et al.* (2008) created a model that combined a network design model and a production planning model for multi-site

refineries in order to demonstrate that using in refineries a model which integrates strategic and tactical decisions can be more profitable compared to using separate models. Later, Fernandes *et al.* (2013) described a profit maximizing MILP model for strategic planning of downstream petroleum supply chain. This model considered depot locations, transport modes and resource capacities and network affectations and excludes inventories, imports and exports. One year later, in 2014, the authors upgraded their work with a dynamic MILP which presented a collaborative design and tactical planning with multi-stage inventories while maximizing profit (Fernandes *et al.*, 2014).

The oil industry downstream sector was analyzed also from the point of view of the operational and tactical planning of the supply chain. There are several studies in literature. One of these studies (Escudero *et al.* 1999) developed a two-stage model for the supply and distribution scheduling of a multi-operator, multi-product petroleum supply chain by taking into consideration demand, supply cost and selling prices. Another similar study (Rejowski and Pinto, 2003) analyzed the discrete MILP models of oil products distribution from one refinery to several distribution centers via pipelines. Neuro and Pinto (2004) suggested a mixed-integer linear program (MILP) as a general modeling framework for petroleum supply chain, which included operational planning of refineries, storage, and transportation of petroleum products.

Selecting the appropriate mode of transportation for the oil industry is a strategic decision. Furthermore, the supply chain network design with multimode transportation has become the focus of research attention during the last years. Sadjady and Davoudpour (2012) studied a MIP model

which included the location and the capacity of the facilities and determined the choice of transportation modes. Olivares-Benitez *et al.* (2013) studied the problem of incorporating the selection of transportation channels that produced a cost-time tradeoff. Li (2013) mentioned that only a few recent studies have tried to integrate inventory management and transportation mode choices into logistics network design. Li proposed a logistics network design framework that integrates location selection and operational strategies of expedited transportation decisions involving nonlinearity. Kazemi and Szmerekovsky (2015) proposed a model that is based on a strategic MILP model which minimizes the entire Petroleum Supply Chain (PSC) cost by optimizing the location of distribution centers and the allocation of petroleum products from refineries to Central Depots (DC) and to the demand nodes.

The classic models of Petroleum Supply Chain (PSC) are based on product mixed



integer linear programming and on multi-echelon, multi-product mixed integer linear programming (MILP), models that allow strategic and tactical planning of the petroleum supply chain.

## Modern Models Used by the Oil Industry

Nowadays, the main goal of the oil companies is to satisfy the client demand as quickly as possible with a reduced cost. Taking into consideration that almost 55% of the final fuel price is allocated to the supply chain, the oil companies need to find solutions to optimize these costs. Due to these requests, the concept of neural networks appeared, based on the biological structure of the nervous system.

The concept of neural networks emerged relatively recently in the literature. The studies in the field indicate the usage of the neural network concept in the following circumstances:

- forecasting and shaping traffic/distribution of networks/supply chain;
- forecasting the volume fractions of the three-phase flows (Salgado *et al.*, 2009);
- flow forecasting fuel tank (Ali Ahmadi *et al.*, 2013);
- forecasting density fluids (Khorsandi *et al.*, 2013).

In today's society, a case worthy of analysis is the one related to the forecasting and traffic shaping/distribution networks/chain. Thus, the research in this area advanced the following question: „How can a network operating in a changing environment be effectively managed so that it results in high-quality services?“. This concern called for the development of an efficient, effective and realistic forecasting traffic model of a network/supply chain, taking into con-

sideration the varied and volatile purchasing behavior of the customers.

The neural network is a model composed of a large number of connected artificial neurons. Each neuron represents a kind of established output function, namely the excitation function. The artificial neural network is an adaptive system which consists of interconnected artificial neurons. Those neurons connect in different ways to generate the best description for the desired relationship. The process to find the best network is called *the training process* where the artificial neurons are weighted mathematically to improve the representation of the problem studied by the network. This model can easily be applied to the oil supply chain also, due to the fact that it can render the essential reference for bandwidth allocation, network traffic control, routing control and also error control in network management. In addition, artificial neural networks are being used in a large number of reservoir engineering applications, such as performance optimization, reservoir characterization, field development applications, well stimulation, formation evaluation and pressure transient analysis (Srinivasan, Ertekin, 2008).



The Monte Carlo Simulation (Chia *et al.*, 2009) is another method used by the oil industry supply chain in order to predict the traffic of a network. Its core idea is to use random samples of parameters or inputs to explore the behavior of a complex system or process. The Monte Carlo simulation calculates the projected reliability. Following are the steps required to perform the simulation:

- Step 1: Determine the project target;
- Step 2: Determine the number of iterations, for example, 10.000 iterations (n). It means we need to prepare 10.000 random numbers for each random variable to simulate the experiment 10.000 times. The number of iterations should be set based on the length of confidence interval required. However, if the simulation doesn't require a long time to run, it is better to set the iteration at a large amount (1000, 5000 or 10.000);
- Step 3: Prepare the simulation model. Run the simulation and collect the simulation outcomes. Consider the potential change on critical path, since the duration is uncertain;
- Step 4: Collect the statistics for each iteration;

- Step 5: Calculate the projected reliability (Pr) as follow:

$$Pr = \frac{\sum_{i=1}^n Ai}{n} \quad (1)$$

The oil and gas industry invests significant money and other resources in projects with highly uncertain outcomes. This industry drills complex wells and builds gas plants, refineries, platforms and pipelines where costly problems can occur and where associated revenues might be disappointing. Assessing the outcomes, assigning probabilities of occurrence and associated values, is how the oil industry analyzes and manages risks. Any description of the Monte Carlo analysis must devote some time to the underpinnings of statistics and probability. The Monte Carlo simulation and decision trees are defined and illustrated, compared and contrasted. The Monte Carlo models do not result in a recommended course of action; rather, they make estimates, providing ranges, rather than single values, like deterministic models. Their scope is broad, ranging from simple estimates of oil and/or gas reserves with volumetric formulas to full-scale field development. These models and the subsequent analysis and presentation show the wide range of possible outcomes and the probability of each.

Moreover, a well-defined lean supply chain measurement system increases the chance for success because it enables managers to see areas where supply chain performance can be improved, so they can focus their attention and obtain higher performance levels. For many organizations, it became clear that evaluating their performance is fundamental in order to achieve an efficient and effective Supply Chain (SC). The challenge is to implement new management tools so that available resources

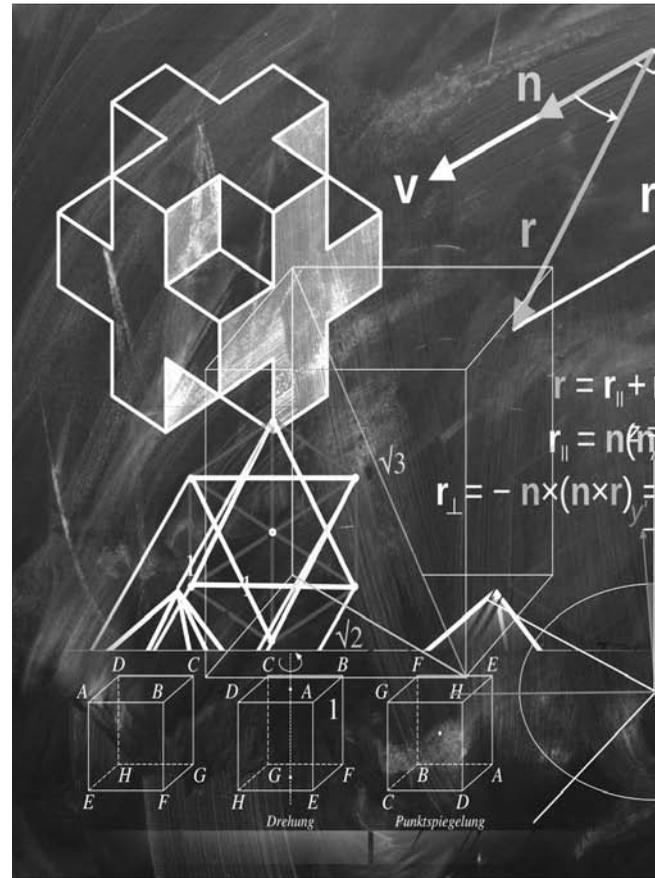


are thoroughly utilized in the production of quality products and services, which in turn enhance organizational competitiveness. In order to implement new management tools, it is necessary to develop a strategic plan that incorporates more realistic goals and initiatives for achieving the outlined goals (Chia *et al.*, 2009).

The Balanced Scorecard (BSC) is another method used to obtain a formalized mechanism that will achieve the balance between the financial and nonfinancial results on the short and long term (Brewer and Speh, 2000) and is also a mean to evaluate the performance of organization through four traditional perspectives: financial, internal business process, customers and learning and growth (Chia *et al.*, 2009). After the identification process, the BSC is applied to these metrics with the intention of evaluating the performance.

The Balanced Scorecard is a management system that provides a ground for businesses to clarify their vision and strategic plans and convert them into action. It provides sufficient feedback about both internal processes and external business outcomes to modify the strategic performances. It turns strategic planning, which is considered an academic exercise, into the (nerve) center of an enterprise (Kaplan and Norton, 1996).

The Analytic Network Process (ANP) enables the aggregation of different individual opinions obtained from several experts as a result of the group decision-making approach. This is an advantage for the ANP, since group decision making may prevent the possibility of a bias, possibly introduced by a single decision maker (Horenbeek and Pintelon, 2014). Consequently, the ANP method can be used to evaluate and prioritize the logistics performance indicators following three steps:



- Building the network: determination of the components (clusters), elements (criteria) and sub-criteria (if there are any);
- Pairwise comparisons and consistency: to form an influence matrix in order to determine the possible influence, as well as the strengths of influences among the elements of the network;
- Constructing supermatrices.

In order to maintain competitiveness, the supply chain system must shorten the operation time for each member, so it can quickly respond to the requirements of the customers. In the same time, it is known that the operation time for each member in the supply chain is often uncertain. Therefore, the literature presents another method to evaluate the performance by analyzing the efficiency of the chosen path –



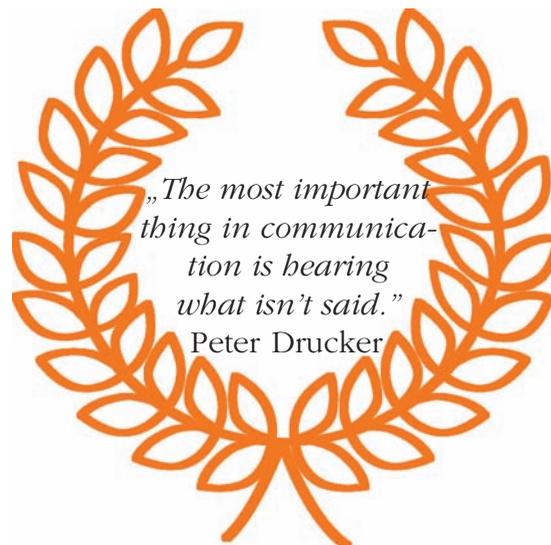
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# Achieving and Improving Job Performance

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Abstract

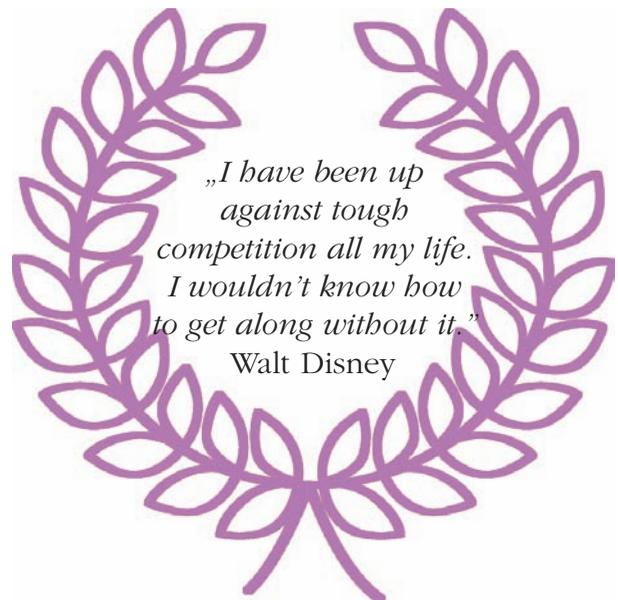
*The article analyzes the idea that work performance is a very important concept, both for employees and for the employers. Job performance is related to the management field, to motivation, human resources management, and business success or failure. Work performance influences and is also influenced by work satisfaction and by many other factors. If managers are aware of this factors, they can avoid dissatisfaction, lack of cooperation and negativism of their employees. Managers must evaluate their employees to know what their complaints and their needs are and to improve the working process in order to find out the factors that affect job performance. The business environment influences the job performance. A pleasant working environment with understanding and cooperation, where responsibilities, duties and tasks are clearly stated, where ideas, work experiences and knowledge are shared, will lead to a good job performance.*

**Keywords:** job performance, work satisfaction, motivation, work productivity, human resources management

## Introduction

Job performance is a part of human resources management which assesses whether an employee performs a job well. Performance is an important criterion for organizational outcomes and success. Performance management is an important human resources management process that provides the basis for improving and developing performance, being part of the reward system in its most general sense.

The overall objective of performance management is to develop the capacity of people to meet and exceed expectations



and to achieve their full potential to the benefit of themselves and of the organization. Performance management provides the basis for self-development, but most importantly, it is also about ensuring that the support and guidance that people need to develop and improve is readily available.

The inputs of the performance management process are knowledge, skills and behaviors required to produce the expected results. Development needs are identified by defining these requirements and assessing the extent to which the expected levels of performance have been achieved through the effective use of knowledge and skills and through appropriate behavior that upholds core values.

Performance management is not just a top-down process in which managers set objectives and build performance improvement plans for their subordinates and the company. Performance management is not something that is done to people; it should be something that is done for the people and in partnership with them (Armstrong, 2009).

Performance management is a continuous and flexible process. It is based on the principle of management by contract and agreement, rather than management by command. It relies on consensus and cooperation, rather than control or coercion.

Performance management focuses on the future performance planning and improvement and personal development, rather than on retrospective performance appraisal. It functions as a continuous and evolutionary process in which performance improves over time. It provides the basis for regular and frequent dialogues about performance and development needs between managers and individuals, based on feedback and self-assessment. It is mainly concerned with individual performance,



but it can also be applied to teams. The emphasis is on development, although performance management is an important part of the reward system through the provision of feedback and recognition and the identification of opportunities for growth. It may be associated with performance or contribution-related pay, but its developmental aspects are much more important (Armstrong, 2009).

Performance management is defined as a process for establishing a shared understanding of what is to be achieved and how it is to be achieved. It is an approach to managing employees that increases the probability of achieving success. Performance management is concerned with aligning individual objectives to organizational objectives and encouraging individuals to uphold corporate core values, enabling expectations to be defined and agreed in terms of role responsibilities and accountabilities (expected to do), skills (expected to have) and behaviors (expected to be),



and providing opportunities for individuals to identify their own goals and develop their skills and competencies.

## Performance Management Theories

There are three theories underpinning performance management: goal theory developed by Latham and Locke in 1979, control theory developed by Travis Hirschi in 1960 and social cognitive theory developed by Albert Bandura in 1986.

*The goal theory* highlights four mechanisms that connect goals to performance outcomes:

- Goals direct attention to priorities;
- Goals stimulate effort;
- Goals challenge people to bring their knowledge and skills to increase their chances of success;
- The more challenging the goal, the more employees will draw on their full repertoire of skills.

This theory underpins the emphasis on setting and agreeing on objectives against which performance can be measured and managed.

*The control theory* focuses the attention on feedback as a mean of shaping behavior. As people receive feedback on their behavior, they appreciate the discrepancy between what they are doing and what they are expected to do and take corrective action to overcome the discrepancy. Feedback is recognized as a crucial part of performance management processes.

*The social cognitive theory* is based on the central concept of self-efficacy. This suggests that what people believe they can or cannot do powerfully impacts on their performance. Developing and strengthening positive self-belief in employees is, therefore, an important performance management objective.

## The Job Satisfaction

Job satisfaction is a positive feeling about a job resulting from an evaluation of its characteristics. A job is more than just shuffling papers, writing programming code, waiting on customers or driving a truck. Jobs require interacting with co-workers and bosses, following organizational rules and policies, meeting performance standards, living with less than ideal working conditions. An employee's assessment of the satisfaction with the job is thus a complex summation of many discrete elements (Robbins and Timothy, 2012).

Interesting jobs that provide training, variety, independence and control satisfy most employees (Barling *et al.* 1992). There is also a strong correspondence between how well people enjoy the social context of their workplace and how satisfied they are overall. Interdependence, feedback,

social support and interaction with co-workers outside the workplace are strongly related to job satisfaction, even after accounting for characteristics of the work itself.

Pay comes up often when people discuss job satisfaction. For people who are poor or who live in poor countries, pay does correlate with job satisfaction and overall happiness. But once an individual reaches a level of the comfortable living level, the relationship between pay and job satisfaction is diminished. Money does motivate employees, but what motivates them is not necessarily the same as what makes them happy.

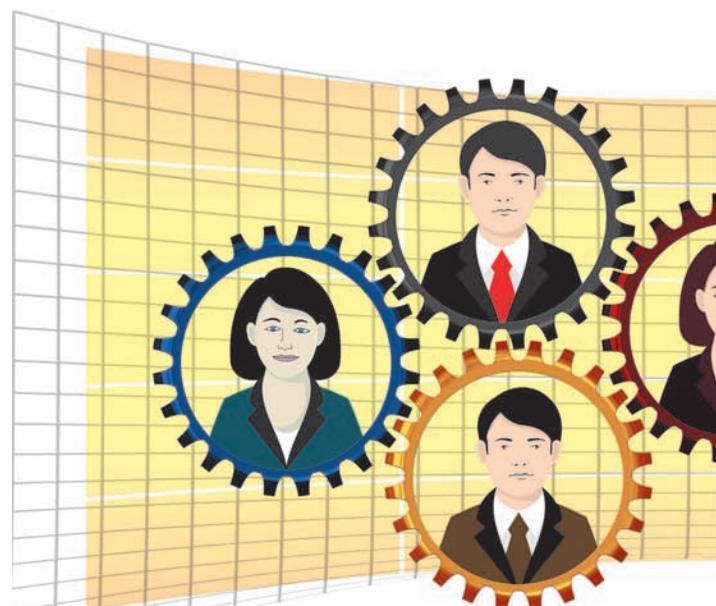
Job satisfaction is not just about job conditions. Personality also plays a role. Research has shown that employees who have positive core self-evaluations, who believe in their inner worth and basic competence are more satisfied with their jobs than those with negative core self-evaluations. Not only do they see their work as more fulfilling and challenging, but they are more likely to gravitate toward challenging jobs in the first place. Those with negative core self-evaluations set less ambitious goals and are more likely to give up when confronting difficulties. Thus, they are more likely to be stuck in boring, repetitive jobs than those with positive core self-evaluations (Robbins and Timothy, 2012).

Regarding the behavior of employees when they like or dislike their jobs, one theoretical model, the **exit-voice-loyalty-neglect** framework, is helpful in understanding the consequences of dissatisfaction. The framework's four responses differ along two dimensions: constructive/destructive and active/passive behavior. The responses are as follows:

- *The exit response* that directs behavior toward leaving the organization: includes looking for a new position, as well as resigning;

- *The voice response*, which implies actively and constructively attempting to improve the work conditions: includes suggesting improvements, discussing problems with superiors and undertaking some forms of union activity;
- *The loyalty response*, that means passively, but optimistically waiting for conditions to improve: includes speaking up for the organization when confronted with external criticism, and trusting the organization and its management to do the right thing;
- *The neglect response*, which passively allows conditions to worsen: includes chronic absenteeism or lateness, reduced effort, and increased error rate (Barling *et al.*, 1992).

Exit and neglect behaviors encompass the employees' performance variables such as productivity, absenteeism and turnover. However, this model expands employees' responses to include voice and loyalty, constructive behaviors that allow individuals to tolerate unpleasant situations or revive satisfactory working conditions. It helps explain situations such as the ones sometimes found among unionized workers, for whom low job satisfaction couples with low turnover. Union members often express dissatisfaction through the grievance



procedure or formal contract negotiations. These voice mechanisms allow them to continue in their jobs while convincing themselves they are acting to improve the situation.

As several studies have concluded, happy employees are more likely to be productive workers. Some researchers used to believe the relationship between job satisfaction and job performance was a myth. But a review of 300 studies suggested the correlation is relatively strong. As moving from the individual to the organizational level, there can be found support for the satisfaction – performance relationship (Ostroff, 2003). When gathering satisfaction and productivity data for the organization as a whole, it can be concluded that organizations with more satisfied employees tend to be more effective than organizations with dissatisfied ones.

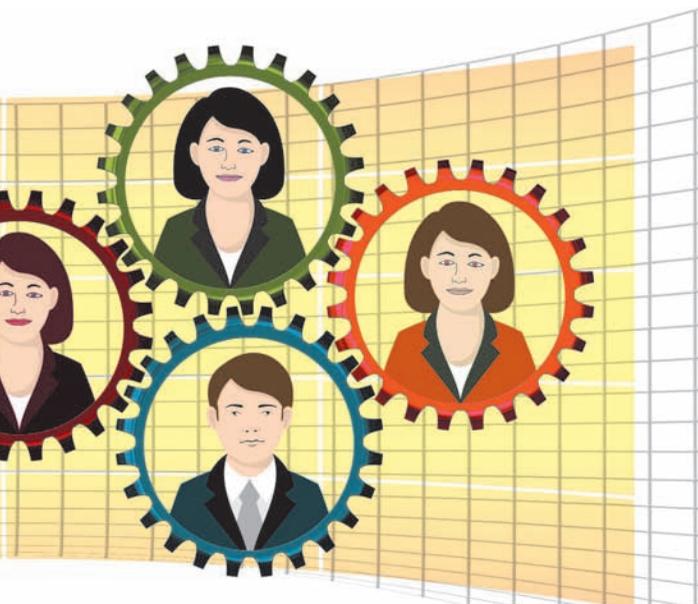
## Organizational Citizenship Behavior

It seems logical to assume that job satisfaction should be a major determinant of an employee's organizational citizenship behavior. Satisfied employees would seem more likely to talk positively about the organization, help others and go beyond

the normal expectations in their job, perhaps because they want to reciprocate their positive experiences. Consistent with this thinking, evidence suggests that job satisfaction is moderately correlated with organizational citizenship behaviors. People who are more satisfied with their jobs are more likely to engage in organizational citizenship behaviors. Fairness perceptions explain this relationship. The employees who feel that their co-workers support them are more likely to engage in helpful behaviors, whereas the employees who have antagonistic relationships with co-workers are less likely to do so. Employees with certain personality traits are also more satisfied with their work, which in turn leads them to engage in more organizational citizenship behaviors (Ilies *et al.*, 2009). Finally, research shows that when people are in a good mood, they are more likely to engage in organizational citizenship behaviors.

Employees in service jobs often interact with customers. Because service organization managers should be concerned with pleasing the customers, it is reasonable to ask if the employees' satisfaction is related to positive customer outcomes. For front-line employees who have regular customer contact, the answer is positive: satisfied employees increase customer satisfaction and loyalty (Koys, 2001).

There is a consistent negative relationship between satisfaction and absenteeism, which has a moderate to weak intensity. While it is possible that dissatisfied employees are more likely to miss work, other factors also affect the relationship. Organizations that provide liberal sick leave benefits are encouraging all their employees, including those who are highly satisfied, to take days off. You can find work satisfying, yet still, want to enjoy a 3-day weekend if those days come free with no penalties.





When numerous alternative jobs are available, dissatisfied employees have high absence rates, but when there are few, they have the same low rate of absence as satisfied employees.

The relationship between job satisfaction and turnover is stronger than the relationship between satisfaction and absenteeism. The satisfaction–turnover relationship is also affected by alternative job prospects. If an employee is presented with an unsolicited job offer, job dissatisfaction is less predictive of turnover, because the employee is more likely leaving in response to pull the lure of the other job than push the unattractiveness of the current job. Similarly, job dissatisfaction is more likely to translate into a turnover when employment opportunities are plentiful because employees perceive it is easier to move. Finally, when employees have high human capital, such as high education, high ability, job dissatisfaction is more likely to translate into turnover because they have, or perceive, many available alternatives (Lee *et al.*, 2008).

In order to highlight the importance of the relationship between job performance and satisfaction for an employee, A. Wrzesniewski and J.E. Dutton (2001) conducted an experiment about a mid-level manager

named Fatima, working at a multinational food company, who seemed to be at the top of her career. She is consistently making her required benchmarks and goals, she has built successful relationships with colleagues, and senior management has identified her as high potential. But she is not happy with her work. She would be much more interested in understanding how her organization can use social media in the marketing efforts. Ideally, she would like to quit and find something that better suits her passions, but in the current economic environment this may not be an option. So, she has decided to proactively reconfigure her current job. Fatima is part of a movement towards job crafting, which is the process of deliberately reorganizing your job so that it better fits your motives, strengths and passions.

The core of job crafting is creating diagrams of day-to-day activities with a coach. Then the employee and the coach collaboratively identify which tasks fit with the personal passions of the employee and which tend to drain motivation and satisfaction. Next, the employee and the coach work together to imagine ways to emphasize preferred activities and de-emphasize those that are less interesting. Many people engaged in job crafting find that upon deeper consideration, they have more control over their work than they thought.

In the case of Fatima, she first noticed that she was spending too much of her time monitoring her team's performance and answering team questions and not enough time working on the creative projects that inspired her. She then considered how to modify her relationship with the team so that the team activities incorporated her passion for social media strategies, with team activities more centered around developing new marketing strategies. She also

identified members of her team who might be able to help her implement these new strategies and directed her interactions with these individuals toward her new goals.

As a result, not only has her engagement in her work increased, but she has also developed new ideas that were recognized and advanced within the organization. She has found that by actively and creatively examining her work, she has been able to craft her current job into one that was truly satisfying for her.

## Job Dissatisfaction

Job dissatisfaction and antagonistic relationships with co-workers predict a variety of behaviors organizations find undesirable, including unionization attempts, substance abuse, stealing at work, undue socializing and tardiness. Researchers argue these behaviors are indicators of a broader syndrome called deviant behavior in the workplace, counterproductive behavior or employee withdrawal. If employees don't like their work environment, they are likely to respond in a way which is not always easy to forecast: quitting, surfing the Internet at work or taking work supplies home for personal use etc. To effectively control the undesirable consequences of job dissatisfaction, managers should mitigate the source of the problem – the dissatisfaction –, rather than try to control the different responses.

Yet, it should come as no surprise that job satisfaction can affect the bottom line. Regular surveys can reduce gaps between what managers think employees feel and what they really feel. Surveys can help organizations to find out where they can improve the job satisfaction for their employees. Managers should be interested in their employees' attitudes because attitudes give

warnings of potential problems and they influence behavior. Creating a satisfied workforce is hardly a guarantee of successful organizational performance, but evidence strongly suggests that whatever managers can do to improve employee attitudes will likely result in heightened organizational effectiveness.

Satisfied and committed employees have lower rates of turnover, absenteeism and withdrawal behaviors. They also perform better on the job. Given that managers want to keep resignations and absences down, especially among their most productive employees, they will want to generate positive job attitudes. Managers will also want to measure job attitudes effectively, so they can tell how employees are reacting to their measures.

The most important thing managers can do to raise employee satisfaction is to focus on the intrinsic parts of the job, such as making the work challenging and interesting. Although paying employees poorly will not attract high-quality employees to the organization or keep high performers, managers should realize that high pay alone is unlikely to create a satisfying work environment.



## Improving Job Performance

The improvement of performance is a fundamental part of the continuous process of performance management. The aim should be maximizing high performance, although this involves taking steps to deal with underperformance. When managing underperformers, the manager should remember that this should be about applauding success and forgiving failure. Mistakes should be used as an opportunity for learning, something only possible if the mistake is truly forgiven because otherwise the lesson is heard as a reprimand and not as an offer of help.

When dealing with underperformers, managers should note that poor performance is best seen as a problem in which the employer and management are both

accountable. In fact, one can argue that poor performance is unlikely to emerge if people are effectively managed. Managing under-performers is, therefore, a positive process based on feedback throughout the year, which must look forward to what can be done by individuals to overcome performance problems and, more importantly, how managers can provide support and help. According to Armstrong (2009), the five basic steps required to manage under-performers are:

1. *Identify and agree on the problem.* Managers should analyze the feedback and, as far as possible, obtain agreement from the employees on what the shortfall has been. Feedback may be provided by managers, but it can be also built into the job. This takes place when employees are aware of their targets and standards, know what performance measures will be used and either receive feedback, or control information automatically and have easy access to it. They will then be in a position to measure and assess their own performance and, if they are well-motivated and well-trained, take their own corrective actions. In other words, a self-regulating feedback mechanism exists. This is a situation that the managers should endeavor to create, on the grounds that prevention is better than cure.
2. *Establish the reasons for the shortfall.* When seeking the reasons for any shortfalls, the manager should not be trying to attach blame. The aim should be for the manager and the employee to jointly identify the facts that have contributed to the problem. It is on the basis of this factual analysis that decisions can be made on what to do about the problem by the employee, the manager or the



two of them working together. It is necessary, firstly, to identify any causes external to the job and outside the control of either the manager or the employee. Any factors that are within the control of the employee or the manager can then be considered. What needs to be determined is the extent to which the reason for the under is because:

- the employee did not receive adequate support or guidance from the manager;
- the employee did not fully understand what he/she was expected to do;
- the employee could not do the task (ability);
- the employee did not know how to do the task (skill);
- the employee would not do the task (attitude).

### 3. *Decide and agree on the action required.*

Action may be taken by the employee, by the manager or by both parties. This could include the employee taking steps to improve skills or change behavior, the employee changing attitudes. The challenge is that people usually do not change their attitudes simply because they are told to do so; they can only be helped to understand that certain changes to their behavior could be beneficial not only to the organization but also to themselves. The manager can provide more support or guidance, the manager, and the employee can work jointly to clarify expectations, the manager and the employee can work together to develop abilities and skills. This can be a partnership in the sense that employees will be expected to take steps to develop themselves, but managers can give help as required in the form of coaching, training and providing



additional experiences. Whatever action is agreed, both parties must understand how they will know that the endeavor has succeeded. Feedback arrangements can be made, but employees should be encouraged to monitor their own performance and take further actions as required:

- a) *Resource the action:* provide the coaching, training, guidance, experience or facilities required to enable the agreed actions to happen;
- b) *Monitor and provide feedback:* both managers and employees monitor performance, ensure that feedback is provided or obtained and analyzed, and agree on any further actions that might be necessary.

Employees may become better at their job by using some simple methods. Here are eight simple solutions to improve the job performance:

1. **Organizing the work.** First, the employees should implement a system of prioritizing urgent items, dealing with short requests quickly, deleting junk emails, putting less pressing matters on a to-do list, verifying the emails



constantly at a determined time period etc. The employees should stop trying to multitask.

**2. Understanding the manager.** Employees should put themselves in the mindset of their manager. The most effective strategy for an employee when dealing with difficult managers is to empathize and discover the manager's style so that the employee can imagine what the manager is looking for in an employee. The employees may ask a series of questions to their manager in order to help them get to know him better, such as what his previous job was, what his career aspirations are. If the employees are dealing with a lousy manager, they should set an agenda and do not yell back, and if the employees are dealing with a difficult manager, they should treat him like a difficult client. In order to succeed, the employees should figure out their manager's style and orientation and they should try to stay one step ahead of him.

**3. Forging strong relationships with colleagues.** Employees should also forge strong relationships with colleagues outside their immediate area of responsibility. The employees should

ally with people who can help them, including employees who have been there a long time and who may be overlooked by others, those who work in human resources, staffers in the information technology department, even security guards and cleaning staff who have probably absorbed much more about the company than the employees can realize.

**4. Focusing on listening.** Employees should focus on listening. They should listen to their manager, but also they should pay close attention to their colleagues and subordinates. Most of the employees think that they will perform if they do a lot of discussions and conversation, but listening closely to what others have to say can be even more useful and can garner more appreciation from co-workers.

**5. Getting in early.** Employees should try getting in early. Even 15 minutes can make a difference. If the employees can swing an early arrival, they will get a step ahead of the day's tasks.

**6. Taking down time.** Employees should make sure they give themselves genuine down time. Employees should understand that a vacation is important from





time to time. It can give the employees a sense of control, of purpose, it can re-balance their perception of time, offer them the space to expand cultural horizons and allow the kind of relaxed break everyone needs to refuel. Once the employees relaxed, they should aim for clarity and precision in everything they do at work.

**7. Doing research and preparation before undertaking any task.** The employees should do plenty of research and preparation before they undertake any task. They should not take up their manager's time before they have performed plenty of legwork. Prior to a meeting, the employees should rehearse their strategies and objectives.

**8. Showing modesty.** Employees should exercise humility. Most career advice seems to encourage relentless self-promotion. But researchers say that it is better that employees avoid strings of hyped-up adjectives and instead try to describe their accomplishments simply, without embellishment.

Individual work performance is an issue that has not only grasped companies all over the world but also fueled a great deal

of research in fields of management, occupational health and work and organizational psychology (Waldman, 1994). Numerous studies on individual work performance have been conducted. However, different approaches to studying individual work performance circulate in today's literature.

Whereas the field of management has primarily occupied itself with how one can make an employee as productive as possible, the field of occupational health has focused on how to prevent productivity loss due to a certain disease or health impairment. Work and organizational psychologists, on the other hand, have an interest in the influence of determinants, such as work engagement, satisfaction and personality on individual work performance (Timothy *et al.*, 2001).

## Conclusions

In all of the research fields mentioned earlier, individual work performance is a relevant outcome measure of studies in the occupational setting. However, despite its importance, no comprehensive conceptual framework of individual work performance exists.





Work performance should be distinguished from work productivity, two concepts that often seem to be used as interchangeable in the literature. Work productivity is defined as the work input divided by the work output. Thus, work productivity is a narrower concept than work performance. It is also important to distinguish between causal variables and indicators of work performance. Causal variables determine or predict one's level of work performance, whereas indicators are reflections of work performance. For example, job satisfaction is considered a determinant of work performance, whereas work quality is an indicator of work performance. The current review focuses only on indicators of work performance and not on its determinants.

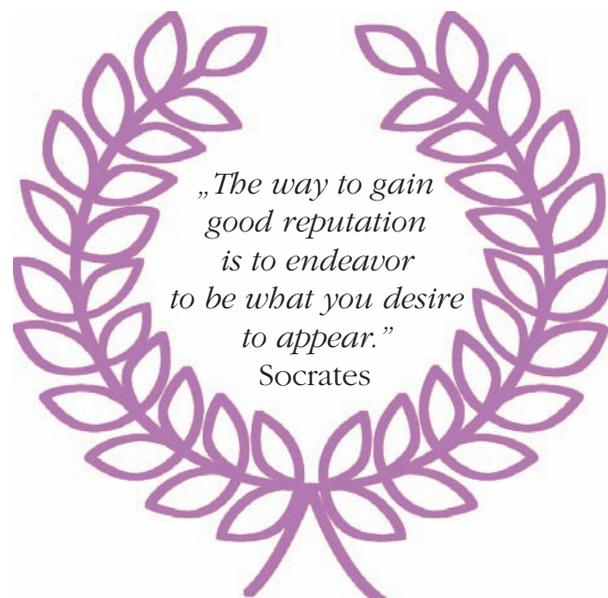
Among the most frequent work performance problems that employees face, there are those related to quantity and quality of work. With respect to the quantity of work, employees may face poor prioritizing, timing, scheduling, lost time, lateness, absenteeism, leaving without permission, excessive visiting, phone use, break time, use of the Internet, misuse of sick leave, slow re-

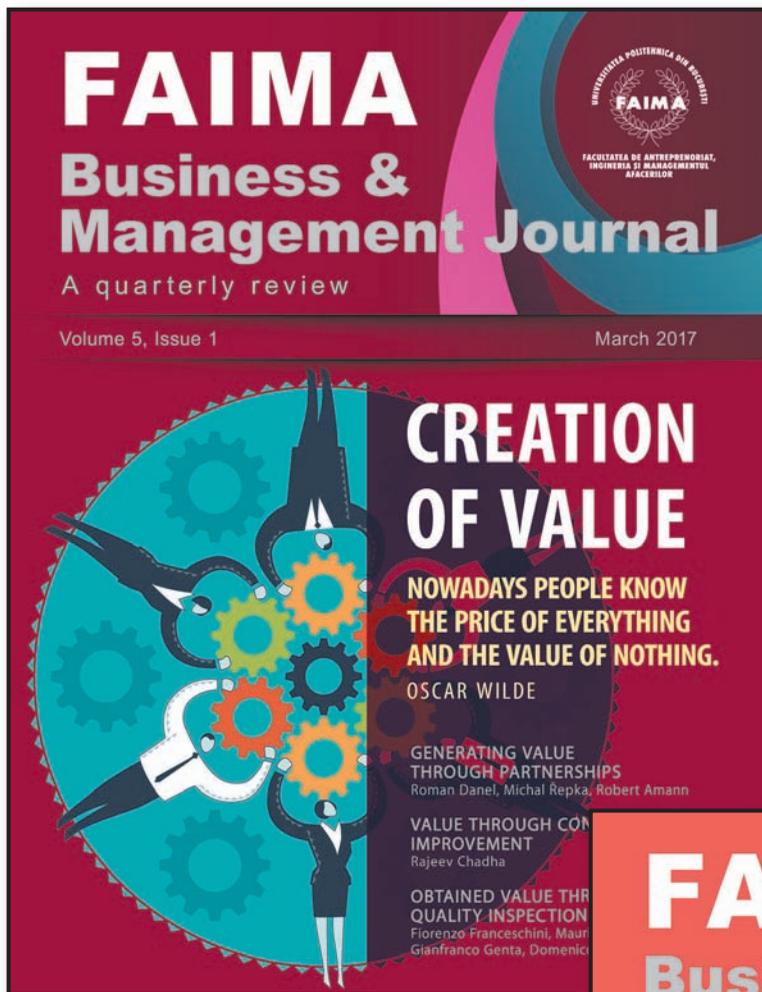
sponse to work requests, untimely completion of assignments, preventable accidents. With respect to the quality of work, the employees may experience inaccuracies, errors, failure to meet expectations for the product's quality, cost or service, customer or client dissatisfaction, spoilage or waste of materials, inappropriate or poor work methods.

Job performance is a central construct in work psychology. There are numerous methods of assessing individual job performance, the factor structure of the construct, the criteria for evaluating the employees and path models explaining individual job performance. There can be noticed a changing nature of work and its impact on the conceptualization and assessment of individual job performance. In fact, most of what industrial organizational psychologists do is geared to have a positive impact on job performance. The importance of the assessment of individual job performance is reflected in the volume of literature devoted to it. Individual job performance plays a central role in what we do as managers and employees.

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