

CONTRIBUTIONS OF SOCIAL INFORMATION SYSTEM TO VALUE ADDED GROWTH AND ORGANIZATIONAL PERFORMANCE

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Abstract: Strategic alignment of human resources function is ensured by design and use of an adequate social information system, which has the ability to control personnel costs, optimize the legal aspects, increase customer loyalty and manage talents, taking into account the constraints of mobility and dematerialization .

These new elements are highlighted by choosing a qualitative methodology, based on analysis of the latest studies and research dealing with the human resources information system/social media. It highlights the ways in which these systems can provide this function a privileged status for creating added value.

The paper, which has the explorative character and opens new research perspectives for a larger project, presents two models for analysis and quantification of newly created value, that the introduction and proper management of social information system promotes in the enterprise, but also operational elements on quantification of its influence on organizational performance.

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1. INTRODUCTION

Because it is a simple instrument, human resource information system / social information reconfigures the landscape of human resources in the enterprise. Through qualitative management functionality it shatter power games in the daily organization of work. New games of the actors appear and the cohesion of social information system must adjust, resulting in a potential change of enterprise culture. The indispensable adaptation of the organization must be anticipated.

The development of their human resources function and exploiting the opportunities that this process can turn into competitive advantages for the enterprise are not possible outside of the design of an information system. From a human resources information system oriented primarily inward, it's reached an social information system that has sufficient components that aim new and important fields

for enterprise and its environment: sustainable development, social responsibility, environmental preservation etc.

2. FROM THE HUMAN RESOURCE INFORMATION SYSTEM (HRIS) TO SOCIAL INFORMATION SYSTEM SOCIAL (SISS)

In the literature, HRIS can be defined from different perspectives, depending on the angle that is privileged. Can be seen two current of thinking, one that considers HRIS after ability to handle information, regardless of the means, another who understands by its technological capabilities in a broad sense, especially depending on the role it plays in the more global process.

The use of computer instruments, electronics and telecommunications enable automation and dematerialization of operations as defined by the enterprise's procedures. They are now widely used instead of traditional media such as paper forms and phone. This transformation is the origin of the concept of information system.

Kovach and Cathcart (2003), define HRIS as "a procedure for collection, storage, restoration and data validation regarding human resources, personnel activities and organizational units needed by an enterprise." For them, HRIS does not imply that it is more complex or computerized. Tannenbaum (1990) defines HRIS as "a system that allows the acquisition, storage, manipulation, analysis, retrieval and dissemination of reLEVAnt information on the human resources of an organization." He believes it is a system that includes people, forms, policies and procedures, data" (Tixier and Deltour, 2004). HRIS has as objectives the supply of services in the form of information, reports, to internal and external customers, system users and support transactions and maintain hierarchical control (Haines and Petit, 1997; Monod and Petit, 1999)." (Barth 2001).

Others have a more technological view of HRIS. Reix (2000) defines HRIS as an "organized ensemble of material resources, programs, personnel, data, procedure for obtaining, processing, storage and communication of information in the form of data, text, images and sounds inorganizations." (Merck, 2003) considers it "a set of programs more or less interconnected which enable the provision in a coherent manner of various administrative act and management operations applied to human." " HRIS is a program that, on the one hand, computerize a number of tasks of different human resources missions function and, on the other hand, their information circuit...The logic of implementation of a HRIS induce (supposedly) that tasks that will be automated will be a suite of flows of information with added value value." (Silva, 2008).

HRIS is associated with more global processes such as e-HRM (Nahon, Taskin, 2009) or e- HRD (Mullenders, 2009).

HRIS and e-HRM. Individualization of work translates the demand of employees for better take into account their individual aspirations. In this context HRIS aims, inter alia, to provide a personalized service to employees, to provide acces to personal information anytime and anywhere. Under this new requirement, enterprises, today, tend to organize interaction between their employees, to open a discussion space where everyone can express themselves and act on exixtente processes (such as the blog "General Motors University Europe"). The decision to develop a HRIS, from e-HRM and an intranet is not only a technical decision. It requires the organization to

review its information and communication processes. Beyond the choice of e-HRM practices, may appear sufficient problems (challenges) of management .

HRIS and e- HRD. Mullenders (2009) starts from the following relation:

$$e\text{-HRD} = \text{HRIS} + e\text{-HRM} + e\text{-Management} + e\text{-HR}$$

and determines that the direction HRM in electronic information management system means + management + implementation of policy and process related to HR function. E- HRD corresponds to HR function that is based on an information system that links key activities (pay, recruitment, training ...).

Regarding the evolution of HRIS, the views of specialists are much closer. It may be noticed that all authors perceive different periods of evolution of HRIS by the crop time. Consequently, it can hold a single presentation, that of Just (2010), completed by the position of Silva (2008), which examines the evolution of HRIS through the development of TIC and NTIC. Just (2010) considers possible the presentation of the history of HRIS through two evolutions. The first is the evolution of the HRM, the second is the computerization of HR function. To these two evolutions, Silva (2008) adds the developments of TIC and NTIC.

Just decomposes the evolution of HRM in seven periods, from 1870-1900 to the present, emphasizing the enrichment that each of these periods brought its accomplishment.

Presenting the evolution of HRIS closely with the development of human resources function of informatization Just highlights the many so-called "ages". "Stone Age " is began with the payroll program. Then in the 1970-1980 users understand better the informatic and begin to issue commands. During this period appear the first customizable application and appears the payroll package.

"Bronze Age" coincides with the emergence and development of human resources enriched programs. "Iron Age" has is its main specific the appearance of a real human resources information system. Since 2000, in the enterprise appear two types of architectures: single program or combination of several specialized programs, with interfaces between them. These architectures allow more or less different, to manage the entire human resources process. From now on it began the age of "e-HR", where new actors have and HRIS receive accreditation. "Golden Age" is the next stage of HRIS, who has many uncertainties. Although everything seems to have been explored in the HRIS domain, technological advances appear and will continue to swamp the function. The new requirements are now related to communication between different modules through an interface increasingly complex.

The answer will likely come from service-oriented architecture, SOA (Service Oriented Architecture) , which consists of cut the functionality of an application or system in service "profession/occupation" reusable in other applications or systems. New horizons for HRIS is their capabilities to be open to a multitude of actors. While HRIS was, at its inception, accessible to authorized users, the "open" HRIS is about to become a system accessible to all.

HRIS cannot be assessed outside the technological context. Indeed, at first glance, it makes sense that the technological size or informatic of the enterprise to influence the implementation of HRIS. This hypothesis was confirmed by Bournois, Rojot and Scaringella (2002) , through a study of enterprises listed on the CAC 40,

which found that often coexist simultaneity between HRIS project and the Internet revolution in the company. Traditional economic groups (such as Accor, France Telecom or PPR) took advantage of the opening of the new means of communication and trade to expand human resources management and, obviously, HRIS.

New issues of sustainable development and corporate social responsibility, as well as the strategic dimension of human resource functions, expanded the complexity and the external aspect of human resource information system. The name of social information system (SIS), which evokes more the external vocation of HRIS, is used for the first time by Martory (2004) that defines information as one of the subsystems of an organization, namely the necessary to human resources function and control for the proper execution of their tasks. Declining the purposes of this system, the author considers it the same time:

- an internal communication instrument in the enterprise, meaning one of the instruments of cohesion, dialogue and action on the social climate;
- a support of the communication with the environment through its annual publications (social balance);
- a support of management processes and thus, control and decision making: social information is the raw material of individual decision (promotion, remuneration, assignment etc.) or collectively (entries, exits, mobility, career) ;
- an instrument for the deployment and strategic coordination (through integrated scorecard etc.).

3. SOCIAL STRATEGY AND ADDED VALUE

The concept of added value, as defined by the literature is equivocal. In the narrow sense, it means the difference between the final value of a product and the value of intermediate consumption used to manufacture it. However, this value is not limited to what it can be measured in monetary terms. It is also, what some experts call, the "use value", others "use value" and to further complicate things these terms cover very different realities, according to the writer who uses it. Another factor that works in the same sense, is the emergence of the concept of "social added value", which seems more open and therefore more uncertain.

For clarification needs and without over simplifying things, Quentin (2000) analyzes the added value from two different angles, economically and socially. As the current economic instruments only measure which can be appreciated in accounting terms, they tend to reduce economic value added inputs, i.e implemented means. If it's accepted this reduction and consider social added value in terms of outputs, by the final value as a whole is nothing more than the simple sum of its parts, the same can be said about this new concept. So social added value is anything other than the simple sum of the economic added values which compose it.

Once overcome this difficulty, it can easily foresee a final for the crisis of added value by reconciling its economic side (which is in crisis) and social side (which seems to offer the greatest opportunities) To further complicate things, can be addressed in more detail the concept of economic value added.

Thus, in accounting, also a specialized discipline by excellence quantification, the added value of an enterprise is the sum of expenditure in order to achieve a finished product, for sale, starting from raw materials, subassemblies and services purchased.

For years we assist to development of the concepts of productivity and quality, which give to accounting added value a more restrictive sense, corresponding to the amount of expenditure incurred to change the actual market value of the product or piece. It is about real marketable value added, which does not includes operations such as handling, storage or controls, which represent unmarketable added value. Taylorism and the scientific organization of labor have focused efforts on marketable values added, while costs of unmarketable values added have risen and often became more important than the actual transformation.

Discussions on social added value continued, focusing on the issue of limits becoming more visible in assessing financial performance and tracing how the human resource costs, in general social or societal efforts contribute to the creation of value by the organisation. For reasons of simplification and understanding, Albouy (1999) provides a good example of two hypothetical companies, EVA Company and SAV Company, listed on international markets, whose financial results are essential creating value (Table 1). The names of the two companies were chosen to be suggestive in terms of their social and societal policy and how it affects the creation of added value.

Table no.1. Financial results of two hypothetical companies and creating added value

	EVA Company	SAV Company
Turnover excluding VAT	2.300.000	2.300.000
-of which recyclable products		1.500.000
Operating expenses, of which :	2.000.000	2.000.000
-training of key knowledge;		200.000
- performance wages of children worldwide and other forms of mobilization;	40.000	150.000
- wages		
Pre-tax profit	300.000	300.000
Afer tax earnings	180.000	180.000
Capital investment during previous period (fixed assests of depreciation and working capital)	1.000.000	1.000.000
Weighted average cost of capital	10%	10%
Economic value added (EVA)	700.000	700.000

The two companies, who obtain comparable results in economic terms for their shareholders, registered large differences when addressing the social aspects of these results. EVA company has a controversial ethical behavior, because it uses children in its subsidiaries in Africa and Asia, which represents a significant long term risk. SAV company adopts a favorable attitude of consumption, by realizing decisive societal investments and by providing recyclable products. Thus, it has anticipated the changes by investing in the training of key skills and positioned in a favorable logic of performance development by setting dynamics of remuneration of its personnel.

In conclusion, the same economic value creation hides potential economic, social and societal risks very different and, finally, different variants of value management.

Social value added approach offers several tracks of answer and few ways to solve these operational problems. It opens the perspective of an analysis of value

creation, which introduces collective intelligence developed within enterprises and authorizes a rebalancing of the distribution of the value created in favor of neglected stakeholders or forgotten by the traditional financial analysis, i.e employees, customers and external partners.

A first idea that would arise in the minds of those who analyze these cases would be to determine a single indicator, SAV (social added value) that would be paired with EVA (economic value added) criteria taking specific evaluation criteria.

Although seductive itself, the idea met with attempts of quantification, which showed that the variety of social measurement makes less meaningful unique value. This is the reason why the proposal was forwarded to the SAV measurement based on multiple indicators.

Thus, it became possible to list a certain number of indicators allowing for appropriate tracking the creation of social added value in enterprises.

These indicators relate to the development of individual competence, harnessing collective intelligence synergy, integration of external knowledge and mobilization capabilities of the employees of the organization (Table no 2) .

Table no. 2 . Key indicators of creating SAV

No.	Domain of action	Indicators
1	Competence and individual intelligence	<i>Knowledge development- Invest in training:</i> - % of personnel has increased the knoweldge of his post - % of personnel had acces to more knowledge - % of personnel was redistributed <i>Remuneration of performances and knowledge</i> Remuneration degree of value creators (bonuses, stock-option etc.)
2	Integration of external intelligence (s)	<i>Recruitment:</i> index of recruitment, renewal of age pyramid <i>The ability to enrich external knoeledge:</i> external growth, tracking networks, alliances etc.
3	Quality of team management	Acquisition of objective elements
4	Collective intelligence and organisation	Investing in the improvement of human resources processes, organization that teaches, the operation of the human resources intranet etc. <i>The organizational flexibility and human resources</i> - % of personnel in the past 2 years - effective human resourcesa/total efective <i>Motivation, social climate, ethics :</i> - global remuneration/on the market - job security - conditions of work - respecting and listening to collaborators employees - the existence of an ethical book -the percentage of shareholders of the enterprise
5	Indicators of disfunctionalities	The indicator of external mobility through resignations The indicator of conflicts: no. of hours of conflicts/working time The indicator of absenteeism: wasted time/working time

The partial indicators of value creation and desire a value-based strategic piloting requires a multidimensional framework of measuring social added value.

The proposal of a matrix analysis of the SAV comply with the processing of all actors, to define performance and the requirements of the relevant measurements. The matrix of measuring social added value (Martory, 2009) suggests, to this end, three types of inputs (Table no. 3) :

- lines mention levels of analysis and measurement of specific forms that can take social added value: respect of ethical, streams, human capital accumulation and, regarding the environment, integrating societal added value;
- on lines appear also targeted groups of stakeholders: employees, shareholders, external partners;
- on columns appear SAV assessment levels, gradually, from the mere finding of the means used to measure performance in terms of efficiency and risk.

Table no. 3. Matrix measuring social added value

LEVELS OF MEASUREMENT AND ACTORS		MODES OF ASSESSMENT			
Level of analysis and measurement	THE RECIPIENTS OF THE INFORMATION	THE IMPLEMENTED MEANS	RESULTS (eficacy)	PERFORMANCES (eficiency)	RISC
SAV on ST and MT <1 year (account results) ST- short term MT-medium term	Employees	Remuneration knowledge Communication Employment modes Management	Remuneration system Training	Individualized social balance sheet	External mobilization Social conflicts
	Shareholders		Degree of mobilization External mobilization	Productivity	Conflicts
SAV on LT>1 year LT-long term	Employees	Action on structure: -employees; -remunerations; -knowledge; Organisation and process	CLIMATE Development of HR	Perenity Variations of income	
	Shareholders		Distinctive knowledge Collective intelligence Flexibility	Immaterial accumulation	Loss of innovative power
RESPECT OF THE ETHICAL	Employees	The ethical book	Respect of criteria	Images and perenity	Risks/rules
	Shareholders	Corporate governance			Degradation of image
SOCIETAL ADDED VALUE (SAV)	Employees	ETHICAL AND ENVIRONMENTAL CONTROL			CONSUMPTION CONFLICTS
	Shareholders				
	Partens of the environment				
		APPROACH OF AUDIT TYPE (monetary) policies, standards, benchmarking		Piloting SAV	

The multi-dimensional aspect is expressed also on the type of measures used in the matrix. From this point of view, the financial measure through prices, costs and economic efficiency will be privileged, because of its operating qualities. It places the observer in a universe of consistency permitting comparisons between companies or

between subunits. It supports all arithmetic processing and authorizes a unique presentation of balance sheets, accounts results, financial efficiency etc. Therefore, it will be used, whenever possible, to express particular, social or societal efforts such as training costs, efforts in the fight against pollution, investments in favor of consumers etc.

This measurement through numbers is not always possible, because it can alter the results. Thus, an ethics compliance can be assessed objectively only by partial indicators, such as the difference in working conditions between developed and undeveloped countries, respect for minorities, product safety etc. To simplify the assessment to a single number it would be absurd.

Hence it can be concluded that the range of expression of social or socio-economic performance requires a variety of methods of assessment, leading to the existence of two types of objective measurements.

The first type is the quantifiable using an objective assessment by groups of indicators, but not homogeneous. Thus, policies to increase team work skills will be translated into practice by data on quality recruitment, by periodic accumulation indicators skills, through balance situation of key skills, through training expenses etc.

The second type of evaluation does not use numbers and lies at the level of the comment, which may be accompanied by some quantitative data. As illustrative examples may be offered an appreciation of injury caused in an area of serious pollution or the positive impact of wage and social measures taken by management on the enterprise environment.

4 . THE CONTRIBUTION OF SOCIAL INFORMATION SYSTEM TO DEVELOPPING ADDED VALUE

Different options are available to measure the efficiency and effectiveness of HRIS for HRM. This measurement can be done after the implementation of HRIS, to verify if it's in according with the demand of users and responds to their problems, either as continuous auditing, to ensure compatibility of HRIS in realtion with the needs of users.

Haines and Petit (1997) proposed a model to measure the success of HRIS with two criteria, namely the satisfaction HRIS user and system usage. Kostova (1999) proposed a method based on the degree of implementation (the level of acceptance of HRIS by users), compared to standard rules and practices and adoption levels defined through an instrument designed for this purpose (A.NVo, 2008). The "active" level is specific to a high implementation and recognized practices. The "absent" level reveals a high confidence in practice, but a weak implementation. The "ceremonial" level enjoys a high implementation but a weak internalization. The "minimum" level is characterized by a weak implementation and a weak internalization. This model is recommended for an transversal HRIS from a multinational enterprise or a group. Just (2010) proposes another method, return on investment or ROI, classical in other areas, but not in this case. This is a purely financial approach, often used to validate a project by comparing the cost of the project (project expenditure, investment, production costs) with income and future productivity gains.

Despite the emergence of these models, in the case of HRIS, it seems particularly difficult to assess productivity gains, some quality aspects (improvement of confidence and motivation, the image of HR function, increased opportunities for communication, employee retention), quantitative aspects (reduced time management)

In his studies of social audit, Meignant (2009) provides a very structured approach based on two main elements:

- the original model of human resource management of Ulrich, but without adequate standards regarding social audit;
- the approach used in quality management, known as the "Deming wheel", or continuous improvement loop or "PDCA".

Ulrich 's model establishes four fields, each with a corresponding to the four roles of HRM:

- the provision of services of the HR function; it follows that the function controls how the report quality / cost of services proposed;
- strategic contribution of HRM; controlled if it has the means of human resources, quality and quantity needed to achieve its strategic and operational objectives;
- management of change; observes if HRM facilitates the appropriate development in the culture and organisation of work and the dynamism of the internal and external networks of actors who support the change;
- motivation and involvement of personnel; aims to identify how HRM helps to encourage motivation and involvement of personnel and improvement of working conditions and safety.

This method covers all the objectives of HRM in these four areas. In order to provide a satisfactory scale to the analysis of HRM audit, each area includes a number of criteria, divided into sub-criteria, which means a total of 16 criteria and 46 sub-criteria.

The other basic element is centered on the observation of the existence in the organization of the initiative of improvement in the form of rings, which can be represented by the diagram in Figure 1.

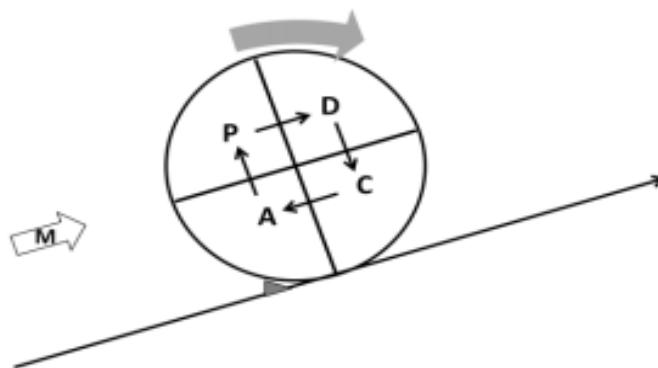


Figure 1. Deming loop for assessing the contribution of social information system in human resource management (HRM)

The slope represents the process of improvement. The wheel is composed of four equal parts, each representing a stage of improvement:

Plan: setting goals and means

Do: implement

Check : evaluation and resources

Action : extracting lessons from this assessment needed for the next round .

The arrow M is the management force. The scotch under the wheel represents the formalization of learning and experience capitalization.

Meignant assigns several limitations associated to this model. The first relates to the fact that it represents a relatively precise framework, but should refer to other sources to highlight the details of a particular domain. The model does not address aspects of employment law, which is essential in the assessment. Another default is related to the desire for universality, for which the model does not take into account national peculiarities that can put in question its results. A final weakness is related to the level of training of the users who must be able to understand and decipher what is behind the human and social plan.

To enable HR professionals to participate in the creation of value for an enterprise and to be a true "business partner", is not enough to install the latest technology and functionalities offered by the market. It is first necessary to define HR policies and practices and to see how these IT solutions can meet the best of these expectations.

HRM problems are numerous. In addition to visible challenges, such as process optimization, data access, responsabilization of the actors, refocusing the HR professionals towards action with real added value, HRIS must allow function to be more effective and convincing as "business partner" and provide HRM the right place in the enterprise 's share.

Assessment of social added value is made at four successive levels of evaluation, from simple to complex, with the main points:

- the means used to operationalize social policy;
- the results obtained;
- assessment of performance;
- social or societal risks specific to the chosen strategic variant.

At the first level of evaluation, *the means used*, outside of results indicators can also measure the efforts engaged in social domain (within the enterprise) and societal (outside it). Considering the content of the indicators used at this level, it can be concluded that this measurement is mainly financial.

The results obtained is the level at which any effort translates different results. Therefore, appreciation is operating in terms of effectiveness, i.e the degree of achievement of objectives. It is estimated, for example, the way in which the efforts to increasing skills effectively turned the key posts situations or how they have improved flexibility of production processes.

Performance assessment. At this level, the observer expresses the results obtained by means that fall into a logic of efficiency. It is a logical place to labor productivity or in the efficiency of investment, such as training activity. Expense and social investment are found in the general economic analysis of efficiency and adopt traditional financial logic classical financial comparisons.

The level of risk. Social or societal risk is generally defined as the mathematical expectation of loss, i.e a decrease of the potential value of a specific probabilities of occurrence. Here are included the due penalties to non-compliance or various types of conflicts with employees and/or consumers.

If we return to the enterprises above and try to filter out through the measurement matrix of added value, we get a more fair expression of values created by them , and we can already make some observations :

- the use of child labor by EVA Company turns a negative choice regarding ethical behavior and can be easily calculated a financial risk of market losses;
- development of non-recyclable products is quantified in environmental accounting in terms of potential cost and bearing specific risks;
- the practice of performance wages by SAV Company is likely to create a dynamic results on short and medium term, which is measurable in productivity overs;
- hiring of investment in training by the same company is a long-term valuation element that can occur in the evaluation of potential teams included in training programs.

Value creation is a problem that raises today a growing interest in many areas of management sciences: strategic management, finance, accounting, management control, marketing, organisation, human resources management. Under a practical aspect, the issue of value creation has become a concern of managers of large enterprises because it allows the development of activities and uses.

The concept of organizational value, defined as the quality of the operation and management of the enterprise (Capelletti and Khuatra, 2004), can be put into correspondence with other conceptual approaches, especially those issued by swedish authors who have tried to determine the value of the hidden root causes by studying intangible capital. In this context it appeared the model appeared Sveiby model (1986) which integrates the measuring indicators of each parts of intangible capital and the Edvinsson and Malone models (1997) who proposed the famous instrument " Skandia Navigator".

5. CONCLUSIONS

The emergence of the concept of "social information system" is not a simple replacement of the older concept of "human resource information system". New issues of sustainable development and the social responsibility of the enterprise, as well as the strategic dimension of human resource functions, expanded the complexity and external aspect of human resource information system. The name of social information system responds better the responsibilities that the enterprise has for stakeholders and this is the main reason why there are differences between the two concepts.

The measurement of the contribution of both systems to achieve added value in the organization is a difficult task, which requires the use and analysis of the concept of social added value as an intermediate and necessary way, at least at the current state of theory and practice, for such a task. Social added value can not be expressed in a similar manner to economic value added, but the level and structure directly influences its economic results.

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