

Review Article

INTELLECTUAL CAPITAL MANAGEMENT IN ORGANIZATIONS

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ABSTRACT

In a world where technological advances and industry is considered as the most important competition tool for the comfort of human life, leading companies and organizations are also not neglected this issue and they are hunting new creative ideas to replace their services and products with the past goods or services through innovation to achieve economic progress. Organizations needs to give sufficient freedom to people to adopt and enforce their work-related decisions and through this way can effective to occurrence employee's potential talents and actualized it. New and innovative ideas reach its peak when the people are stimulated through internal commitment, challenge flexibility, job satisfaction and self-control and self-discipline mechanisms and hearing and valuation. Since the occurrence of intellectual waste is inevitable in organizations, this paper examines the importance of intellectual capital management and factors influencing it and provides guidelines for intellectual capital management.

Keywords: *Intellectual Waste Management, Organization, Intellectual Capital*

INTRODUCTION

Wastes management to be addressed as a key challenge at the global level, as in some cases the wastes were threatening public health and the environment and may even be regarded as an obstacle to economic development. Until now, various solutions have been proposed to deal with this issue. However, the occurrence of wastes appears to be inevitability. Wastes typically come against an organization's assets (tangible and intangible). Intellectual capital is classified as intangible asset that is not directly observable and sensible, so the management and prevention of wastes faces many complexities. Intangible resources or intellectual capital including a wide range of organizational resources consisted of: knowledge, employees experience and skills, social capital, organizational structure and culture and relational assets of the organizations with their external stakeholders (www.pksgfood.ir). Organizations needs to give sufficient freedom to people to adopt and enforce their work-related decisions and through this way can effective to occurrence employee's potential talents and actualized it. New and innovative ideas reach its peak when the people are stimulated through internal commitment, challenge flexibility, job satisfaction and self-control and self-discipline mechanisms and hearing and valuation. Since the occurrence of intellectual waste is inevitable in organizations, this paper examines will discuss this issue.

Theoretical Research

Taylor's Scientific Management emphasizing that using the scientific method in management can increase the economic efficiency of organizational resources (physical - Finance - Human, etc). Organizational behavior school which is more known as human relations, despite the opinions expressed in the scientific management school, not only is not sensitive to the physical conditions of the workplace, but also reacts to emotional and psychological conditions. Thus machine-based human mentioned in the scientific management has been questioned in the human relations school and found human non-material needs is effective in efficiency (Alvani, 1998). Sometimes the question arises that in operations management, principles of scientific management is the key basis and the principle of human relations school has no place in this management disciplines, while operations management are not isolated from human issues. It can not provide constructive results to the organization regardless of how human behavior in organizations along with other factors of production. People, who feel valued and respected in the workplace, work with more interest and have higher yields than other people who do not feel it. To better understand the organization's operations and knowledge of how to relation elements that is effective to form operations, system approach is an effective and efficient method. With the help of system approach,

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the manager is able to identify the effective components in operation and holistically to solve production problems and services providing (ibid.). In the most recent classification of wastes, unused employee creativity is defined as "loss of time, ideas, and developments". Learning opportunities in human resources because of the lack of attention to their proposals are include wastes that are not considered in the organization and are added to the seven wastes posed by Shingo (www.myindustry.ir). Shingo (1992) take surveys from different organizations employees, and based on it, defined and classified wastes into seven groups: wastes associated with excess production capacity, waste associated to the process, waste of Inventory, transportation waste, waste associated with the production of defective products, waste of time delays and motion and job-related waste of time systems, so an efficient manufacturing process is the outcome of reducing and eliminating waste (waste - material). Shingo's attitude is a technical approach and simply "assuming equal human factors as the same and part of other production factors (www.pksgfood.ir). Waste refers to any activity which absorbs resources such as time or cost but does not create any added value. Waste elimination is one of the basic principles of lean manufacturing systems. For the systematic elimination of waste, it should be taught to all human resources within the organization about what is waste and if so, how to eliminate it. By analyzing operational processes and human resources in industrial and non-industrial units, two types of waste are identified. These two types include apparent and hidden wastes. It is evident that apparent wastes studied too much, but a point which may need to be more considered is the hidden wastes. Apparent waste usually is easily identified and it can be immediately removed with a low cost or even no cost. Hidden wastes appear in the methods, technology or current policies and organizational intellectual resources, unless improved methods implemented to identify, control and removal of waste (Feld, 2001). Factors that cause to create intellectual waste in the organization are including the following:

- a. Failure to listen and write down suggestions which employees can provide
- b. Lacking to encourage employees when offering suggestions
- c. Lack of involvement employees in solving problems
- d. Failure to obtain useful and constructive comments from newcomer manpower that may have brought from elsewhere they worked before.
- e. Failure to consult with other departments such as the Department of Engineering, etc.
- f. Lack of motivation to participate in operations managers sessions

The Concept of Intellectual Capital

The concept of intellectual capital in recent years has been highly developed in the world's scientific and administrative academies.

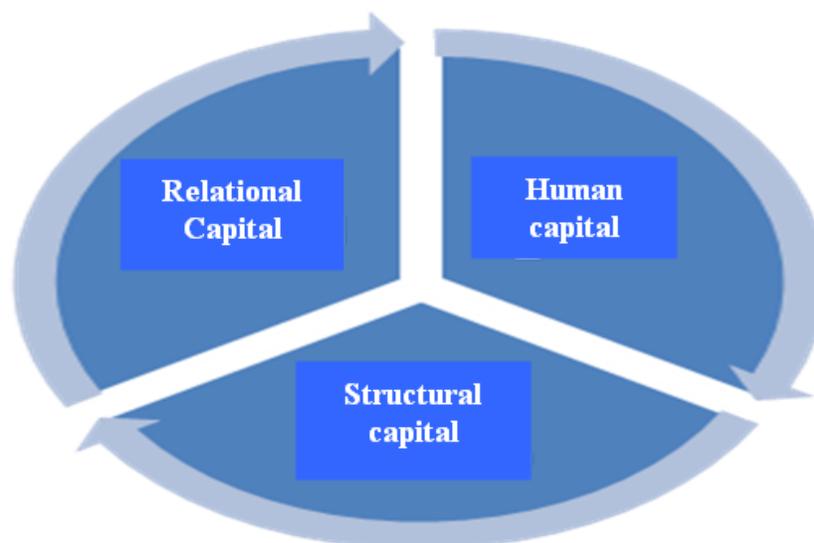


Figure 1: Components of intellectual capital

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The main reasons for this can be refer to the increasing difference between market value and book value of the companies as well as the risks arising from financial criteria-based management systems. Several definitions of intellectual capital are provided. The intellectual capital is about intangible things. That is not directly observable and sensible.

Thus, its management is faced with complexity (Zakeri, 2012). Intellectual capital has been defined as knowledge that can be converted to value and also defined it as practical experience, organizational technology, customer relationships and professional skills to achieve competitive advantages. Intellectual Capital consists of three components: human capital, structural capital and customer capital (Bontis, 2008).

Intellectual capital defined as knowledge that can be turned into profit and its key elements are: 1) Tactical knowledge; 2) Encoded knowledge which in turn has a subset of property (IP). From a legal perspective, spiritual property rights over intellectual property may be discussed and overseeing the legal interests of its owner. In terms of complementary, intellectual property has a supporting role to meet work needs (Davise & Harrison, 2001). Given that organizational capabilities are based on intellectual capital and ownership of intellectual capital equips organizations to certain ability, the strategic capital management has become critical to the competitiveness of enterprises. Zehou & Fink (2003) knows intellectual capital management as a management that strategically occurs to increase the organization's ability to create value (Kujanive *et al.*, 2008).

Although intellectual capital management is an activity that takes place primarily at the strategic level and by senior managers, many intangible assets such as personnel qualifications and customer relationships are including tactical and operational activities that are taking place at different levels of the organization. In this regard, Kujanive and Loscovist (2007) divided Intellectual capital management into two functions "control" and "development".

Although the two functions are complementary, control refers to those strategy activities that aim to identify and prioritize intangible resources. Development of intellectual capital is focused on various activities to improve intangible resources.

Measurement and management of intellectual capital is an effective tool for increasing competition. Understand and manage these hidden assets play strategic role in the organization's global strategy. Intellectual capital index allows managers to understand the real strategic impact on intellectual capital. Intellectual capital Management aims to encourage, innovation, self-motivation, to exploit initiative and build organizations that are established based on knowledge and without remarkable traditional instruments. Intellectual capital management plays a decisive role in remaining competitive in today's fast-changing and unpredictable market. Intellectual property is non-competitive. Unlike physical assets which can be used only to perform a particular task at a particular time, intellectual property can be simultaneously applied to more specific case.

The Importance of Intellectual Waste Management in Organizations

For most organizations today, employees are important. The market value of many organizations largely depends on intangible assets, particularly exploit human capital. In the developed world, businesses need employees to perform complex tasks in the best level of performance. The cost of lost opportunity due to lack of talent management has a reverse effect to intellectual capital accounting and in creating competitive value for organizations, (Ebrahimi, 2012). Nowadays we can find fewer books or an article in which the employee importance is not mentioned.

The authors speak about war of talents and the relationship between human capitals with market value of the company. Senior managers in the Annual Reports claim that employees are the most important asset. According to surveys conducted by executives confirm that most of them are believed that finding and developing the right talent should be their highest priority. When executives say the staff is important, but there is not the action and institutional structures reflecting this view, an unspoken message that can be heard is "Employees are not the source of competitive advantage". In such a situation, employees will feel worthlessness and exploited. The best people will leave an organization and those with poor performance will remain and the organization will lead to the demise and destruction (Esakhani, 2010).

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Factors Affecting Intellectual Waste Management

Studies show that individual factors directly and organizational and team factors indirectly are effective on intellectual capital Management. As a result, organizations need to meet three sets of conditions to manage intellectual capital Management:

- Organizational conditions (including: organic organizational structure, organizational climate, reward systems and leadership style)
- Team conditions (including: team communication systems, team cohesion and team diversification)
- Individual conditions (including: independence, risk-taking, confidence to skills and interpersonal skills, training and learning opportunities)

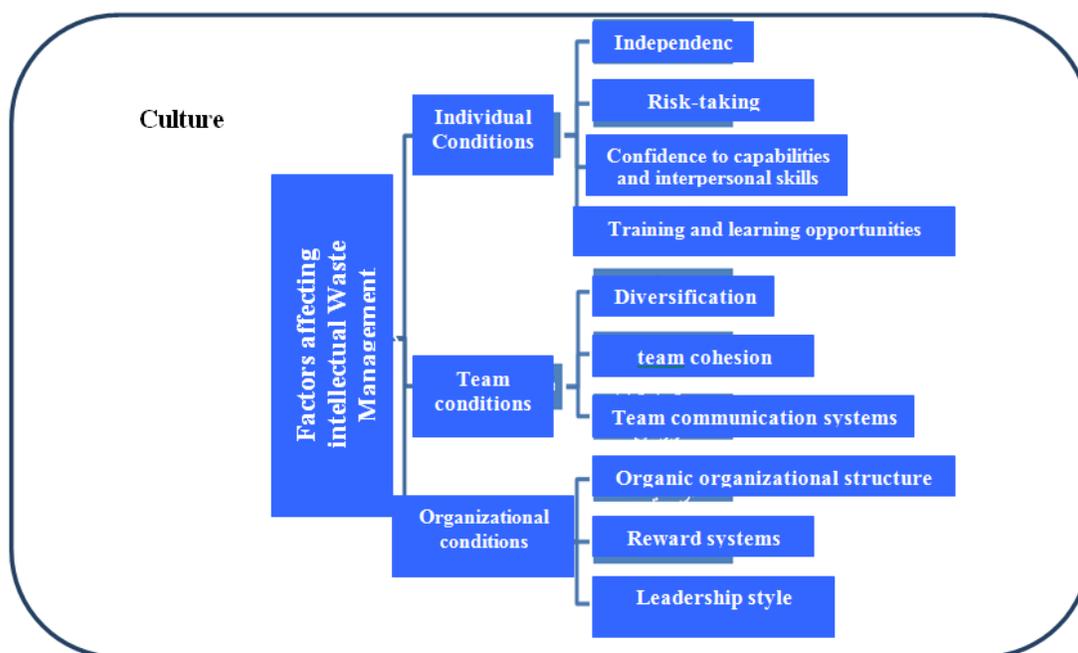


Figure 2: Direct and indirect factors affecting on intellectual waste management (Molazainali, 2011)

Organizational Conditions

- 1) *Organic organizational structure*: In organic organizational structure, a broad and flexible mandate, a diverse and non-repetitive tasks, expertise-based power on and individual competence, minimal rules and regulations in the workplace has an impact on the incidence of new ideas and thoughts.
- 2) *Institutional Space*: They felt safe in his various comments and be able to interact freely with each other.
- 3) *Reward System*: Payment criteria including salary, bonus and etc. must be fair in the organization. People are rewarded commensurate with their job requirements.
- 4) *Leadership Style*: Leadership style should be participative and support, that is people's participation in setting goals and making decisions that will affect their destiny, identify and solve problems in cooperation and consultation with employees, encourage employees to work together and provide the conditions for people to express ideas.

Team Conditions

- 1- *Team communication systems*: Design workplace, so as to facilitate communication between people in the organization.
- 2- *Team cohesion*: The group has a common purpose and vision and interested in it. The ability of individuals is closely to each other; integrity and promote transparency and non-proliferation rumor.

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3- *Diversification*: People with different cultures and ethnicities; People with different academic specialties (Molazainali, 2011).

Individual Condition

1. *Independence*: It means interested to freedom to do things
2. *Risk-taking*: no fear of failure and providing learning opportunities for people to enhance their risk-taking
3. *Confidence to skills and interpersonal skills*: The organization must provide an environment to help people have deep confidence in his abilities and skills in their respective tasks. Employed in jobs that they love.
4. *Training and learning opportunities*: People in fields related to their jobs should have the knowledge and skills that ensure adequate training and experience.

Also, organizational culture plays a facilitating role to create a space for people to the emergence of new ideas. In such a cultural context, individuals can have a deep trust in their abilities and skills (Molazainali, 2011).

Static and Dynamic Approaches to Intellectual Waste Management

Waste defined as leaving a raw material or making a commodity or product in a standard limit. However, intellectual waste is the lack of talent management and to exposure to a range of intangible assets is a qualitative discussion. It's auditing and certification is specifically for developed societies. To consider intellectual waste as static and searching it in articles, brand, etc. has not sufficient capacity to cover all aspects of the organization intellectual waste.

Understanding and modeling the strategic impact of the intangible resources on the organization success required to look and a dynamic approach to intellectual waste, a look that was not one-dimensional cross-sections to the problem. And by challenging various alternative attempts to expand, develop and establish interaction and communication with other relevant issues. It can say that, a static approach is appropriate to produce cross-sectional images of the status of intangible assets.

However, there is a little on how to utilize these funds in order to achieve organizational goals. Incidentally, in terms of the static approach, the same criticism that will stimulate the movement of intellectual capital typically is true for intellectual capital. Intellectual capital approach relying on the fact that the organizational assessment should be past-oriented (because financial indicators generally represent past performance of the organization), rather it should be future-oriented (ie, the present or future performance of the organization, taking into account intangible factors to be considered) have been developed. Indeed, it is a complementary approach to Norton and Kaplan Performance Evaluation approach. Both static and dynamic approaches have different assumptions about the nature and basis of knowledge. Static approach tied to knowledge cognitive perspective.

It assumes that knowledge can be managed with accurate and identified procedures and policies and specific measures.

This approach is also closer to the resource-oriented approach. In the resource-oriented approach, the main concern is the acquisition and protection of valuable, rare, irreplaceable and non-duplication resources. In contrast, a dynamic approach (organizational capabilities-based approach) is related to the structuralist view of knowledge.

They believe that knowledge can not fully control, simply can manage it creating a favorable and enabling condition. Organizational capabilities refer to the ability of organization to perform repeated organizational tasks that directly or indirectly leads to an increased capacity to create value in organizations. Therefore, this perspective of intellectual capital, rather than focus on knowledge as an organizational asset concerned the analysis of learning and knowledge as the core activity of the organization (Asadi *et al.*, 2011). The following table shows a detailed comparison between the static and dynamic approach to intellectual capital.

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Table 1: Comparison of static and dynamic approach to intellectual capital

	Static approach	Dynamic approach
Perception of knowledge	Static assets, source, accumulated	structured in a social process
Knowledge necessary form	Apparent, knowledge of what	Implied, potential, knowledge of how
Main interest	Identification and evaluation of existing intangible	Ability to use, develop and refine intangible
Theoretical focus	Investment in the intangible, personal property rights, human capital, structure and relational	The ability of firms to apply and develop knowledge
Management focus	Utilize current assets	Create and develop capabilities
Origins	Economics and Accounting	Organization Science and Strategic Management
Measurement focus	Data on individuals, structures and results	Social processes and institutional characteristics
Quantifying the components to measure	Easy	Difficult

Intellectual Waste Accounting

Development of information and communication technology put all human community and the industrial community and business organizations in the state that for survive need to find new tools and strategies appropriate to the dominate conditions. Nature of organization assets has changed. Intellectual capital substituted financial and physical capital. Hence, in today's organizations, traditional accounting methods that are based on tangible assets are not sufficient to valuation intellectual capital, the largest and most valuable intangible assets (Foroughi, 2010). Investigators are trying to determine the hidden costs that implying intellectual waste and its central role in the value creation process and costing intellectual waste. However, many countries that pursue knowledge management have not a process to measuring knowledge assets or intellectual capital, or the indicators used for this purpose are very superficial and limited (Jafari *et al.*, 2005).

Intellectual Waste Reduction Strategies in the Organization

- ✓ How to express an idea or a suggestion (especially at the lower levels) in its acceptance or rejection by the Chief Executive Officer is very effective. Enjoying the appropriate facilities, equipment and software as well as their communication skills and ability (verbal and behavioral) make the most influence on the creative audience and the emergence of their minds.
- ✓ Opportunities to occur creative thoughts, supporting the senior management of intellectual capital and highlighting and branding creative people in talent management is effective step in eliminating the cost of lost opportunity due to waste and lack of exploitation of untapped ideas and intellectual waste.
- ✓ Dispose of opinion is considered as a kind of defense and a reason for weak. The person who raises an idea wants to increase his/her confidence. However warning to four groups is: 1- Those who are competing with him, 2-Those who found their self-confidence in danger with the progress of others, 3- Those who are in jeopardy of their social needs, 4- Those who their safety need is endangered, will rise up to defend.
- ✓ Create flexibility and performance evaluation system reform: Traditional and biased regulations will prevent creative thoughts and wasting it in the organization. It is also necessary to change traditional and normalized performance evaluation system and not in a way that prevents expert and staff innovation. Administrators by creating flexibility must reduce the restrictions imposed on staff and experts and prepare the areas for strengthening ideas building. In a creative and innovative organization, evaluating employees is not just based on their physical presence, rather all organization human resource based on excellence and staff development and activities and services quality and the amount of new ideas and profitable for the organization are evaluated.

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- ✓ Delegation: Delegating and giving responsibility to employees allowing them to learn from their experiences and help them to create new ideas and strategies. It raises a sense of responsibility in achieving organizational goals. Thus, managers with discretion must delegate the responsibility to work and how to doing it to the staff and experts and arrange such that to minimize physical supervisory as possible and staff and experts to observe their outcome.
- ✓ Access to information: Infrastructure to make the right decisions is the use of information needed for decision-making. Therefore, it must ensure that staff and experts have access to the information necessary to do their job. Make right decisions will allow their implementation and will cause stability in motivation of staff and experts.
- ✓ Setting goals and expectations: Low-level goals and expectations provide no incentive to the employees and experts. Also, high expectations may lead to failure and disappointment to them; therefore it is essential to set organizational goals and expectations in appropriate extent.
- ✓ Encourages risk-taking: Managers should encourage risk-taking in situations where failure results are tolerable. This helps the decisions and actions are more comprehensive over time.
- ✓ Creating the right climate: Managers should provide the opportunity needed to comments from all the staff and experts. Avoid harsh criticism. They give good value and reward for good ideas and practices.
- ✓ Setup idea management in the organization: The organization, establish an office as "ideas management" to interaction with consultants and experts to create and the exploitation of new ideas.
- ✓ To design a proper framework for the design and setup employee suggestion systems (ESS) in the organization.
- ✓ Self-control rather than direct and continuing control of staff
- ✓ Lack of rapid assessment and criticism of the opinion expressed by employees
- ✓ Pay attention to individual differences in creative staff than other in valuation and motivation incentives.
- ✓ Returns and feedback to the income and benefits of new and applications ideas in the enterprise to innovative employees.
- ✓ Effective utilization of training related intellectual capital management, to identify, update and actualize new and practical ideas of employees in the organization.
- ✓ Utilization of consultants and experts at the launch of "The Think Tank room" and designing a motivation and incentives model in this area.
- ✓ Identify the causes of intellectual waste in the organization using techniques of cause and effect and the tree diagram to rooting barriers.
- ✓ Senior management commitment to serious attention to the issue of intellectual waste management, support and create a favorable climate for the occurrence of new continuous ideas
- ✓ Holding seminar meetings, council and etc to express problems without fear and intimidation to establish mutual trust
- ✓ Accept changes and make the prospective space in the organizational approach.

Discussion and Conclusion

New developments in the economic sphere, globalization and its consequences led to greater intention to organizational performance. The potential success of an organization is depends more to intellectual abilities beyond the physical assets. Hence, organizations should pay special attention to the improvement and development of their intellectual capital and human capital. Hence, in the third millennium where intellectual capital rather than financial capital is the essential foundation for a dynamic and future success of the companies in the knowledge economy and costing intellectual waste, managers need to know what are the intellectual resources and performance drivers and value in their organizations; Because increasing the understanding and application of intellectual capital will help the organizations to more efficient, effective and high yield. Challenge of the managers is to provide a suitable environment for the growth and development of the human mind in the knowledge-based organization. In fact, the knowledge-based businesses in many countries require a new model and naming that includes the organization intangible factors. Intellectual waste can be reduced through creating a healthy and regular

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and two-way relationship with the staff and using their constructive comments and applying the opinions of other practitioners in the other area with expertise or experience in similar products and achieved to productivity.

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