Performance management as a process of promoting innovation in software industry

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Abstract

This study aims to present performance management as a process of promoting innovation in the software industry. The target is to analyze how a software company can drive its innovation strategy by applying effective methods of performance management. For this reason, key principles of performance and innovation management are thoroughly examined. On the one hand, performance management seeks to achieve optimal financial and operational objectives of an organization by directing employees within an agreed framework of planned goals. On the other hand, innovation management provides to the company the process and the objective according to which the company will develop new applications and ideas. The alignment of these two fields defines the outline for the creation of new products and services and assists the company to differentiate against competition. In addition, this analysis is enriched with a real case scenario of a software company that acts in the global market and targets to novelties. Finally through this study, it is revealed that the combination of performance and innovation management play a positive role in promoting the goals of a software company.

1. The Software Industry

The software industry, which is more than fifty years old, gradually and steadily, has started to mature. The more it matures the more the business is exploring for solutions and trying to heal its vulnerabilities in an effort to move forward and face the demanding future. The continuously growing environment force businesses to cope with the

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rapid rate of technological change and the increasing competition. Nowadays, novelty has become a necessity and sets the foundation for future grow.

By following the direction of improvement the sector needs to invest not only in new technological ideas and advanced know-how, but also in new organizational schemes and new management methods (Kutsikos & Mentzas, 2011; Trivellas, 2012). Therefore, businesses seek for ways to increase their profit coming from the patents’ ownership and in parallel for methods that will accelerate the internal processes and drive their vision to reality.

This analysis aims to explain the necessity for innovation and illustrate how a company may benefit from the convergence of performance management and innovation practices. It examines how performance management can assist and reinforce the innovation drivers inside a software company by investigating thoroughly into a case study referring to the R&D department of a company developing telecommunication networks that is currently among the first fifteen in the world in delivering software (Sakas, Vlachos, Nasiopoulos, 2014; Nasiopoulos, Sakas, Vlachos, 2014).

2. Performance Management

Performance Management is used for acquiring the best outcomes of an organization and its employees by comprehending, investing and managing teams’ performance within an agreed framework of planned goals. It should be used to examine how results assist to collect the information about necessary improvements. (Bacal, 1999) has analyzed performance management as a system, which operates within a larger system. A system is defined as a set of components that work or operate together in similar or interdependent ways for the accomplishment of a specified purpose. If you think an organization as a complex system with various parts operating interdependently, performance management may be defined as a process that aims to improve the possibilities and prospects of workers, to improve the organization of a company while enhancing its working cycle. In particular performance management is concerned with (Armstrong, 2000):

- aligning personal employees’ objectives to organizational objectives
- defining agreements and expectations in terms of role responsibilities and accountabilities, defining what is expected to do; what skill are required to have and how behaviour should be
- providing opportunities for individuals to identify their own strengths and develop their skills and competencies;
- implement a variety of practices in order to enhance the performance of a target person or group with the decisive purpose of improving organizational performance

In order to have a clear understanding about the function of this system we must have a closer look to its different components. Performance management consists of four individual components that operate in sequential cycles as depicted in Figure 1. In the table we see the four phases starting from performance planning, continuing with performance execution and review and ending up to performance analysis and coaching.

3. Innovation

At this point we need to emphasize on the critical goals that characterize software business industry; the most important of which is presently innovation. Innovation plays a significant role in the strategy of such companies, since it has been proved nowadays that all pioneer technological companies own a big part of their success to novelty products and new ideas. In fact, today’s successful software organizations must not only be innovative in managing technological changes but mostly capable in exploring and exploiting technology to create new business capabilities in a smart way, as to increase revenues and achieve differentiation for the venture.

Innovation is commonly defined as the process of converting a new idea into a new product, service, or process or a new business model, resulting in new value being created that will benefit the company and its customers. According to (Sawhney et al., 2006), business innovation is systemic and comes in many different forms. Business innovation must be studied holistically across all dimensions of the business system. Moreover, Porter (1998) claimed that innovation is central to all business strategies, and a number of studies have provided supporting evidence (Reklitis & Trivellas, 2002; Trivellas, 2012; Trivellas et al. 2007).
Regardless its type, innovation is enhanced by the ability of a company to modify and adapt its capabilities, products and services or take strategic advantage of the constant changes in the external competitive market and regulatory environments.

![Fig 1. Performance management phases](image)

Each company should follow the fundamental principles and implement innovation projects, processes and infrastructure in such a way as to be able to achieve its strategic objectives. The steps that should be considered as the most essential factors for driving innovation within an organization are described by (Barsh et al., 2008):

- Innovation should become major part of the formal leadership agenda
- Companies need to opt to this kind of innovation that drives growth and meet business objectives.
- Establish methods and processes for managing and applying innovation decisions.
- Achieve goal alignment among senior leadership, management teams and employees
- Create an ecosystem which promotes and enhances novelties
- Increase personal accountability for innovation
- Formulate and educate committed teams in order to manage and carry out innovation activities

Moreover, business innovation must be managed with appropriate performance metrics supported by a practical measurement framework. (Adams et al., 2006) proposed a framework for measuring firm’s innovation management process, which consists of the following seven categories:

- Management by Inputs
- Knowledge management
- Innovation strategy
- Organizational culture and structure
- Portfolio management
- Project management
- Commercialization
4. Performance management and Innovation in a real environment

In order to investigate more on the role that Performance Management plays in the accomplishment of the company’s goals we will analyze the environment of a high-technology company by investigating more in the degree of accomplishing its innovation strategy through applying well established performance management models.

Based on our theory, performance management as a system includes a set of components, which work or operate together in similar or interdependent ways for the accomplishment of a specified purpose. Systems receive inputs and through a series of processes, transform them into outputs, products, services or information. In our attempt to build such a system we need to take into consideration the following factors:

• Innovation as the target output
• Performance management as the process evaluating, managing and developing the performance of the human resources in the organization
• Performance evaluation, or appraisal, as the ongoing process of appraising workers’ performance

By realizing this approach we conclude the following schema presented in Figure 2.

The scope of this analysis will be to evaluate whether a telecommunication company manages to drive innovation through its established performance management infrastructure or not. In the real case scenario a Research and Development (R&D) sector of an organization is held under the microscope. The R&D aims in delivering high quality software services worldwide and operates in a competitive multinational environment. The scope of the case study is to lay an eye on the techniques the company practices and examine whether performance management could be used in favor of innovation.

By following the well known cycle of performance planning, execution, evaluation and analysis the company aims to accelerate its innovation. In this direction, we start this analysis by evaluating each phase separately, starting with performance planning.

4.1. Performance Planning

According to the essential principals of Innovation Management as declared by McKinsey’s survey, we observe that:

• The company has adopted Innovation as part of its strategic management, by setting Innovation as one of the main targets and by investing on cash and human resources (Trivellas & Santouridis, 2009).
• It is using Performance Planning as a method to assign specified targets related to innovation activities, diversified per functional area and per R&D region (Trivellas, 2012).
• In order to accomplice target alignment for all units of the organization, it uses Performance Planning by assigning common business targets related to innovation.
• The attempt to create an ecosystem which promotes pioneering ideas is enhanced by setting the Innovation as one of the company’s core values. Also, the insistence of the executive board to position the innovation high on the management agenda and the availability of money required to achieve the objectives, should inspire the employees (Trivellas, 2011).
• Personal responsibility for innovation is addressed by Performance Appraisal, since innovation becomes one of the “how” factors in performance evaluation. Moreover, since innovation KPIs are assigned in each person’s individual targets they affect employees’ reimbursement.

4.2. Performance Execution:

The company efficiently provides the essential infrastructure by using the necessary tools for the submission of novelty ideas or IPRS and by assigning innovation representatives capable to support on any issue arising. It has already created and applied methods and processes for managing and submitting innovation decisions. Moreover, it has established the necessary network for storing and communicating the performance individual targets.
4.3. Performance evaluation and review

According to given facts, the theoretical methods that best describe the company's practice concerning performance evaluation is according to the theory a combination of the forced distribution and the rating scales method by enforcing the positive negative definitions.

Primarily, we know from theory that core values are considered essential for building a company's culture. Many companies are using them as a mean for applying actions and boosting performance. The fact that in our case study innovation is a core value and in addition becomes a behavior skill criterion, through which the employee is assessed according to his job allocation, indicates clearly the company's intention to drive actions towards this direction (Trivellas & Santouridis, 2009).

However, the innovation as part of the behavioral criteria doesn't indicate a clear path towards creating new ideas. Even though it is a significant part of the performance evaluation, it is not straightly related to the actual innovation activities. In fact it is used for assessing every aspect of employees' annual individual targets and not only the
targets related to innovation. It acts as a general behavioral direction which rather confuses employees about its fundamental role than provides actions and steps for generating novelties. In addition the way that innovation is evaluated as behavior is basically depended on manager’s subjective opinion and not on actual results.

Moreover, the achievement review of strategic targets becomes a multiplier in the employees’ bonus payment and since the innovation consists one of the basic factors in the Strategy, it makes obvious the fact that all employees should focus their work on the same direction.

4.4. Performance Analysis and Coaching

The role of Performance Analysis and Coaching is to propose organization performance or training solutions and support the entire performance process with the necessary know-how. The proposals are based on data that are usually collected after an internal survey, not on speculations. By running a front-end analysis, the company acknowledges the existence of the performance gap and identifies efficient solutions. It is true that the analysis takes time to run; however, the true grounds of the problem are identified and the targeted solution is applied the company confronts with a better return-on-investment. Human Resource focuses mainly in dealing with individual performance evaluation analysis by planning actions for treating the "under" performers. For this reason they prepare improvement plans that need to be followed by managers in an effort to ensure employee's evolvement (Armstrong, 2012).

In addition, it seems that although the company hires external coaches for supporting the performance analysis processes, it does not invest in innovation consultancy much. Instead it tries to cover any vulnerability by basing on its current working force and managers, without enabling them with the necessary know-how and practices that they need in order to produce and manage novelties. This action doesn’t help the company since it brings back the problem to those who actually create it.

Finally, knowledge management which as we know from the theory may offer extremely powerful measures with regards to innovation management is not applied in its full scale. The company doesn’t seem to have established a way of taking advantage the collaboration practices and techniques required to satisfy the innovation goal; thus, does not learn from its mistakes and does not aim in efficient models. It seems that it rather insists on following the same old established procedures and continuously repeats itself.

5. Conclusions

There is no direct distinctive performance evaluation method to be used in case of multinational companies dealing with software. Each method could provide unique advantages but we shouldn’t neglect the drawbacks. This is why many companies implement combined method approaches, based on their needs and according to the mode or their operating. In addition in software industry, software development models (e.g. Agile, Kaban), come to add a further assistance in the way of managing teams and human resources. This is because their implementation is done in software team level and it is thoroughly associated with the implementation of the work goal.

Performance management is a powerful tool which can be used by a company to achieve its strategic targets and in parallel it provides techniques that can be used to extract the best of the employees’ performance. Due to the fact that it is the only process which embraces all the aspects and levels of an organization, its role turns out to be critical for all the company’s operations. Especially, in the demanding sector of software business performance management is called to support functions like innovation that lead the industry’s challenges.

According to the bibliography and to the case study performance management and innovation could benefit from each other and contribute in business’ prosperity. Performance management is proved to provide the required execution steps for running and promoting innovation; however, it is the company's strategy and culture that steer the wheels towards novel ideas.

Additionally, in a telecommunication networks company, product innovation is considered to be essential, since new technological artifacts and techniques are born almost daily. However, product innovation alone may not be sufficient for ensuring future growth. Any business strategy must focus in other innovation sectors as well, like services, in order to establish a competitive position inside the industry. A well based company infrastructure and a good network are not always considered enough to foster innovations. The company interested in innovation needs
to re-assess the performance targets that are cascaded to its employees. It is obvious that for business success, management needs to ensure that the targets applied to the workers are in alignment with the company’s vision. Business should be thoroughly analyzed according to the theoretical innovation measures and the management must provide clear directions.

Finally, the importance of knowledge management in innovation is undisputable. The business needs to invest in gaining a competitive advantage by exploiting the know-how and by integrating external knowledge into the organization (Kutsikos & Mentzas, 2012; Trivellas, 2012). It is necessary to support the whole process with capable coaches and mentors that reinforce, promote and accelerate the realization of business goals (Trivellas, 2011; Trivellas & Santouridis, 2009). Performance management system is capable of offering the framework to support such radical changes and launch innovation in the company culture.

References