



DESIGNING A PERFORMANCE MANAGEMENT SYSTEM INSPIRED BY HUMAN BODY ORGANIZATION

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Abstract: Human resource being the most vital parameter in success of any organization, needs to be addressed with due diligence. This paper provides some valuable insights in designing a performance management system inspired by systems in human body. Considering Human body organization analogous to corporate organization, some useful comparisons have been developed between the human cells and employees of an organization. A Management Action Grid is proposed which suggests possible actions to the manager for effectively handling employee performance. An attempt has been made to suggest some ways of handling non performing employees based on learning's derived from cell suicide mechanism in human body. In this paper, based on various learning's derived from Human Body, Employee Management System like Voluntary Retirement Services (VRS) has also been validated. Perhaps these biological observations can help managers to design an effective performance management system.

Keywords: Cell, Cell death, Human Body, Non- performers, Performance Management, Voluntary Resignation.

INTRODUCTION

The business world is getting increasingly dynamic and competitive. In order to survive and keep up with growth it is essential for an organization to accomplish their intended functions effectively and efficiently. The employees; being the main performers are the key to the successful achievement of the organizational goals. Therefore, managers must know how to inspire, develop and get the work done from the employees. Managers also have to make sure that their employees have all the required skills, knowledge and are motivated to perform their tasks effectively. In this regard all organizations keep trying to improve their performance management systems to motivate employees to deliver their best.

A good performance management system shall appraise the employees on the basis of their performance. It will reward good performers so as to boost their morale and shall also deal with non-performers depending upon the reasons of their non-performance. However, designing a performance management system that inculcates all relevant aspects requires due prudence and is a complicated and tedious task. A number of alternative performance management systems are available in literature on HRM, all having their own pros and cons but none of them is perfect in managing all issues related to employee performance. Managers are looking for systems that are well proven in managing its individuals following an unbiased and logical approach. But they are not very successful in discovering a perfect organization or system from which they can draw insights for effectively handling various performances related issues of the employees.

Although such a perfect organization may not exist in the corporate world, but there are examples in nature that show us effective and fully functional performance management systems. One such example is the Human body organization. Human body, a Nature's creation is perfect in maintaining its health by managing perfect co-ordination among its different parts and processes, regulating homeostasis & control and many other aspects. Human body which is regarded as Nature's best creation reaches its perfection from its smallest unit to all its major systems through evolution ranging from its structure to its functioning, autonomy, control and its openness with the external environment along with the many other aspects. Human body can therefore be considered as perfect in its all aspects ranging from its basic unit i.e. a cell to the major systems.

A Cell is like a self-contained unit in the human body organization. It performs all the roles assigned to it efficiently and if the body finds it unfit, it stimulates the cell to leave the body to protect the whole body from its adverse consequences. Understanding the human body organization and also the process followed by it to manage performance of cells as its individual units can help managers to draw principles based on which an effective performance management system can be designed. In this paper an attempt has been made to draw some useful managerial insights from the smallest functional unit of human body organization i.e. cell.

Understanding the Human Body Organization:

Human body like any other organization has a mission of its healthy survival. Human body as an

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organization is composed of various organ sub-systems that are analogous to business units of a corporate organization. Collective efforts of these sub-systems and its constituents lead to achievement of organizational goal. Malfunctioning at any level will impede the organization and its goals will not be achieved. Therefore human body like any other organization has to manage various aspects important in achievement of its goal. But as it is well known and time tested that the human body is perfect in managing itself by regulating performance of its constituent units in a coordinated and efficient manner. But the question is, how? To understand this let's have a look at the cell cycle shown in Figure 1.

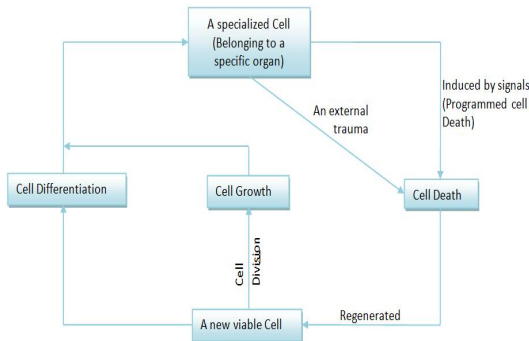


Figure.1: Systematic representation of Cell Cycle- Growth, Differentiation, Death and Regeneration of Cell, a basic constituent unit in Human Body.

Figure.1 describes the mechanism of cell growth, differentiation, death and regeneration. This process is useful in developing the analogy in the context of an organization as a system with its lowest level employee is viewed as a cell.

In the human body cooperative assemblies of similar cells form tissues and cooperation between tissues in turn form organs which are specialized and belong to a specific sub-system and carry out the functions necessary to sustain the life of an organism (11). This represents the hierarchy in the human body organization. Similar hierarchy exists in the organizational systems with employee representing the cellular level. Table 1 compares the human body with an organization.

From the Table.1, it is clear that human body organization and a corporate organization are analogous in its structure from its basic units to larger subsystems. Performance of individual unit can lead the sub-system to be effective which in turn helps in achieving goals by the organization. Hence the role of employees as the individual cellular unit is the focus of attention for all organizations. The managers' role is to find ways and means to effectively and efficiently manage performances of their employees.

Table.1: A Comparison of Hierarchy in Human Body Organization and Corporate Organization.

Human Body Organization		Corporate Organization	
Level of organization	Explanation	Level of organization	Explanation
Cellular level	Cells are the smallest unit of life. Cells are enclosed by a membrane Or cell wall and in multi cellular organism often perform specific functions. E.g. Blood cells, nerve cells	Employees	A person with a set of skills or a person specialized in a specific job
Tissue level	Tissues are group of cells with similar functions. E.g. Muscle, Epithelial and connective	Work Team	A team of employees that have assigned to accomplish specific tasks.
Organ Level	Organs are two or more types of tissues that work together to complete a specific task. E.g. Heart, Liver, Stomach	Department	Several teams with homogenous tasks, belonging to a specific department and representing a specific business function.
Organ sub-system level	An organ system is a group of organs that carries out more generalized set of functions. E.g. Digestive system, Circulatory system	Strategic Business Unit(SBU)	A unit of people that is structured and managed to meet a need or to pursue collective goals.
Organism System	An organism has several organs system that functions together. E.g. Human	Organization	An organization has corporate business units that functions together.

A cell can be considered as a skilful resource, to an organization that is self-sufficient to perform and also bears accountability to its non-performance. A cell manages its own proliferation and death as it replicates according to its requirement to the body and eliminates itself if found unfit for the role.

According to the human body system has equipped the cell with necessary instructions for such processes of growth and death. So considering human body and corporate organization analogous and then benchmarking the process followed by human body in managing performance of its individual units, many issues related to employees' performance can be addressed. In fact considering human body as an organization that best manages its cells (as

employees); a performance management system inspired by human body can be developed. This analogy is helpful in understanding the 'DNA' of an organization; which in turn impacts on managerial performance.

Understanding the Human Cell as Analogous to Organizational Employee:

According to Sherwood (5), the Cell is the basic structural and functional unit of human body. It is the smallest unit of life that is classified as a living thing. A single cell is often a complete organism in itself. The cells cooperate with other specialized cells and become the building blocks of human being. As an individual unit, the cell is capable of metabolizing its own nutrients, synthesizing many types of molecules, providing its own energy, and replicating itself in order to produce succeeding generations. It can be viewed as an enclosed vessel, within which innumerable chemical reactions take place simultaneously. These reactions are under very precise control so that they contribute to the life and procreation of cell. In order to do this, each cell keeps in constant communication with its neighbors. As it receives nutrients from and expels wastes into its surroundings, it adheres to and cooperates with other cells. Lessons in coordination and cooperation with other cells can be insightful in organizational communication, coordination and cooperation.

As a perfect employee of human body organization, a cell possesses necessary skills. It has DNA as data base that contains all kinds of information about the structure and needs of both the cell in which it exists and all other cells in the body. They carry required information in the form of genetic material for differentiation. Cells belonging to the same organ share common purpose with its sister or neighboring cells but they functions independently. So we can say that an organ is composed of self-managing units that can operate alone but that can interact with other cells for better performance. It is a combination of independence and interdependence. The boundaries of a cell are selectively permeable to monitor incoming and outgoing cell traffic in a sensitive way that is supported by specific receptor on it. Each cell is self-managed unit to differentiate, grow and die to keep the body healthy. Table.2 portrays the analogy of a cell with an employee in an organization.

Meaningful insights from human body in managing performance of its individuals:

According to Faller *et al.*, (1) there are 10 trillion cells in human body which are of 200 types. Each cell performs different function and thus contributes to healthy survival of the body. Some cells are short lived and have a frequent turnover while others remain in the person's body for life. The average life span varies

from a few hours for certain blood cells to 15 years for muscle cells and lifetime for the nerve cells (12). The life span of a cell depends upon the function carried by it as a cell can remain in the body and function till the body finds it fit. If a cell which is not performing up to the desired levels due to infection, damage or any other reasons, then that cell will be rejected by the body irrespective of its life span.

Table.2: Analogy between a human body cell and organization employee

Cell	Employee
Basic building block human body is composed of millions of cells	An organization is composed of employee
The cell is equipped with necessary organelles to perform its functions.	Each employee has a specific skills that makes him specialized to perform its tasks and duties.
Information in the form of genetic material is provided to some cells to allow it to work independently.	Job related information in the form of education is there with an individual that makes them self-sufficient to perform.
Malfunctioning of a single cell can affect the whole body if not cured.	Inefficiency of a single employee or department can hamper the whole organization in achievement of common goal.
Cell is responsible for its own replication (growth) and death	Growth can be achieved through good performance and hard work of the employee only.
Though the cell is held accountable for its ultimate fate but death is stimulated by certain receptors.	Good or Bad, performance depends on employee himself but action against him is stimulated by performance appraisal depending upon the management policies towards it.
Different types of cells are there to perform various body functions.	Employees with various skill set is required to perform different functions of an organization.
Every cell has different life span depending on the functions they perform	Every employee has varied tenure with the organization depending on the role assigned and his efficiency in performing that role.

To make this policy simpler human body organization has predicated the life span of various cells by linking their function with the damage that can occur during their performance. This might be the reason why some cells have less life span than others (for example Red Blood cells or RBCs). RBC, with an average life span of 120 days, performs a task of carrying oxygen from lungs to various organs and eliminates waste from various body parts to lungs (8). Though the function performed by RBCs as an oxygen carrier is not very complicated but it is vital to the survival as it is providing life supporting element to all the other cells. RBCs while performing their role are subject to mechanical stress as they flow through the various blood vessels in the body undergoing tremendous wear and tear. This distortion makes it less efficient in its performance and in such a vital function; inefficiency in performance cannot be afforded by the body. This justifies the high turnover of RBCs and even other cells in the human body.

Similar philosophy is being used by defense forces as well. Since the country's security which is of paramount importance is on stake, therefore no compromise in performance can be acceptable. Therefore, defense personals are hired in Short service commissions and also their retirement age limits are significantly lesser (10). This biological observation can be used by companies also in determining the tenure of various employees depending upon their role and this also validates the rationale of outsourcing services or human resource on contractual bases. People have to be competent to perform the role assigned to them. They continue so long as they meet expected levels of performance. This is a simple but powerful message from the cell analogy. We can further justify this observation by taking an example of recruitment function of an organization. Recruitment is an essential function in which candidates are selected from outside and are assigned to various departments of the organization as per their requirement. Thus recruitment is a support function to other department because effective functioning of other department very significantly depends on the availability of right kind of human resource. Recruitment is therefore very important and inefficiency in it cannot be tolerated because incompetent and ineffective employees could be responsible for non-achievement of targets set by the departments. Comparing the function of oxygen supply by RBCs and supply of competent people through recruitment function of a company it is quite clear that there are parallels between them.

This analogy can be used by organizations in deciding the functions where it is better to remain on contract basis rather than making them permanent. This can also be taken as an important tool for managing employees' performance. Like human body has kept high turnover of RBCs, outsourcing of important function could be used to maintain its efficiency. Outsourcing services on contractual basis can be beneficial to an organization, because if the organization finds the performance of outsourced agency or on-contract employee unsatisfactory or unfit for the job, organization has an option of not renewing the contract, or even terminating it in between. Therefore an inherent pressure to perform is put by the organization on the outsourced function, as they very well know the consequence of not performing. Also an organization is not bound to carry any misfit. This is perhaps validated in various government jobs where the employees; once made permanent may become reluctant to perform to the best of their capability and one has to live with it.

Building on the strategy of human body to respond to various cells on the basis of their performance and turnover rate, a grid can be drawn that can provide useful insights to managers to handle or to decide

appropriate action on its employees based on their performance and their tenure with the organization. It can be called as *Management Action Grid*.

The horizontal axis represents employee performance, which also depends on employees' suitability to job among other factors. The vertical axis represents employee tenure with the organization that depends on the role to be performed.

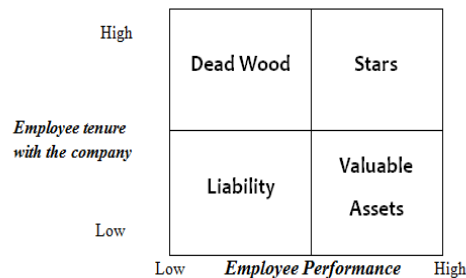


Figure.2: Management Action Grid.

The four cells of management action grid are grouped on the basis of low to high employee tenure and employee performance. The different combinations can be seen in the Figure 2. These different combinations will act as a basis in deciding management action on these employees.

Based on the Valuable asset zone, the signal is 'go ahead', indicating managers to renew the contract with the employees of this zone as they are good performers. Perhaps they can be put under green channel of renewal of contracts of employment (flexible employment contract); in which the owner company will always have a control in their hands. In the human body WBCs and RBCs fall in this category where though their life span is low but their performance level is high.

Employees in the Star zone attract major attention and must be rewarded or promoted to more challenging job to motivate them to perform. In the human body these are comparable to the nerve cells which remain with the body from birth till death. They perform key functions with very high precision and therefore the body does not sacrifice them during the entire life span. They are assigned to act as the control centre in the body. Thus stars could control the organizational system.

For the employees of the Dead Wood zone, the managerial action is 'stop' indicating their termination inspired by the process of cell death in human body. Cells that are damaged or infected by viruses have to pass through the process of cell suicide as their presence can negatively affect the whole body. Dead

wood needs to be weeded out if organization has to remain agile, efficient and competitive.

For the Liability zone the signal is 'just tolerate' as their tenure with the organization is short and need to focus on their short term performance live with it. The presence of some dead cells in various parts of our body is analogous to this category.

Life in balance: Understanding the concept of cell death:

Though hiring employees on contractual basis seems to be a good option for organizations in managing performances of its employees, but it is not prudent to have temporary staff in majority. In comparison to contractual staff, it is beneficial for the company to get the majority of operations and other important task performed by permanent employees of a company as the permanent employees are better accustomed with the work and the systems and also the company can get the worth of expenses made during the training from the permanent ones only. However, it is also very important to make the permanent employees perform to achieve the organizational goals. Thus, the organizations are confronted with another challenge in designing the performance management system for developing the policies for managing the performance related issues of its permanent employees.

This issue motivates to examine how the human body, the Nature's great creation manages the performance of its individual units for its healthy long term survival. This might be useful to managers in solving many organizational problems dealing with employee performance.

The cell in the human body which is damaged, distorted or infected by virus (more precisely we can call a cell which is not fit to perform its function effectively) is analogous to a non performing employee. Therefore, by analyzing and understanding the human body's action in handling such malfunctioning cells, useful managerial insights can be drawn with the help of which major problems related to the employee non-performance can be resolved.

A Cell as a perfect operating unit of human body organization is a complex structure and operates much like a self-contained unit of an organization. The fate of a cell as an individual employee depends on its requirement to the rest of the organ, but as tissue homeostasis is important for the maintenance of a stable body so the body has to keep a balance in cell proliferation and cell death. Our body needs various types of cells at different stages of development for varied functions. However, cells which may present any risk to our health are destroyed by themselves. This

process is called cell death. Cell death mainly occurs by two processes 'Apoptosis' and 'Necrosis' (<http://www.nimr.mrc.ac.uk/mill-hill-essays/why-do-we-need-programmed-cell-death-apoptosis>, accessed February 15, 2013).

According to Kam *et al.*,⁽³⁾ Apoptosis is a form of programmed cell death, and a genetically regulated cell suicide mechanism (a process in which cells acquire the means of their own destruction) that is essential for our well-being. For instance, it plays an important role during viral infections, by killing of infected cells before all of them will spill over with virus particles. This act is called as 'Cell Suicide'. Hence the cell destroys itself to hamper spread of viruses and thus save the whole organ. But this decision to die cannot be taken lightly, and the activity of many genes, their mediators, influences a cell's likelihood of activating its self-destruction program.

Apoptosis process can be activated by one of two pathways i.e. by activation of either external or internal receptors (Kam *et al.*, 3). When any cell is infected by virus, damaged or distorted, the cell shrinks and pulls away it's from neighbours, then after a series of structural changes it destroys itself. This destruction can be self-induced or because of rejection by other units of the tissue.

The second way, necrosis according to Dutchen *et al.*,⁽⁹⁾ is an unplanned response to some trauma or infection or other shock to the system. This is what happens to skin cells during sudden burning after touching a hot object. While apoptosis selectively removes certain cells neatly, necrosis does it without any strategy. Accordingly, the process of necrosis is much messier and also affects the nearby cells by causing inflammation.

Apoptosis and Necrosis as the two processes of cell death can be visualized in organizational context also. Apoptosis, the programmed dismissal is done in the form of voluntary resignations with minimal harm to the employee. On the other hand Necrosis can be seen in the form of sudden terminations affecting the employee and rest of the staff significantly. In this paper an attempt has been made to develop ways of managing poor performers in the corporate organizations by mimicking cell suicide mechanism in human body to eliminate infected or damaged cells.

Managerial learning from Cell Suicide Mechanism:

In order to win a game of hockey, the 11 players working together is more important than the efforts of the best player. Even though the team considers the best players but if one or two players continually fail to work hard, victory cannot happen. The same holds true in business. Therefore, the manager should focus on

the performance of all the employees rather than just focusing on improving the performance of few best ones. Also the growth of a company is measured by the ability to harness the employees' talents, skills, efforts, goodwill, time and energy and transform them to business results. The Companies, that are able to tap the talent of their employees lead to profitability.

As the companies have some outstanding individuals, they also have some underperforming individuals at the same time. Underperforming employees are barriers to achieving company goals and objectives. Managing the behavior and performance of the employees can be a difficult challenge for a manager, especially when the employees continually fail to produce acceptable level of performance. We can call such employees as poor performers, those who clearly miss the achievement of the results expected. But the question is why they are not able to reach the level that is expected from them or serve the purpose for which they are hired. The answer could be: they are not doing their job. Maybe they do not know what their job really is, or perhaps they lack the skills to perform the actions involved, or maybe they are simply not motivated and hence ineffective in whatever they do. The manager needs to sort this out, because the first three can be addressed with focus and education. Fourth, simply ineffective employee can lead to removal.

Manager must find ways to address the situation and motivate these ineffective individuals to begin performing above the threshold and demonstrate appropriate levels of competency. The use of either positive or negative motivational techniques can be effective when attempting to improve the behavior of ineffective or non-performing workers. Even if the performance does not improve despite efforts to motivate them, one can conclude that we have identified a really poor performer.

Having identified a genuine poor performer, we now have to handle him or her in such a way that the employee is removed from work with the minimum negative impact on the rest of the staff. Dismissals though come easily to mind to handle poor performer, but are not as simple as the problem with this system is that the managers (in charge with managing the poor performers) may find this process too distressing emotionally. The other problem with such strategy is that it degrades the goodwill of the organization. It gives an impression of firing culture of the company and the talented candidates may avoid joining such company. Thus we may lose talent with individually firing of non-performers,

In this matter asking the employee to voluntary resign can be a good option as it manages to protect

the emotional health of the employee saving him from being dismissed and also allow internal climate of the organization to remain healthy and fair. Such resignation can be justified when employees do not improve despite counseling and many warnings from the company through various means. The proposed suggestion can be justified by considering the human body cell's performance management system as perfect.

From managerial point of view, the working of cell is analogous to any unit of an organization. These units can be independent employees or very small group of employees. All such cells work for a common purpose i.e. overall fitness of human body organization. But there are some cells which fail to do this and therefore can become problem for the whole organ. However, human body is able to manage such situation with a planned strategy called Apoptosis. Therefore it validates our suggestion as in human body when a cell is not able to perform its function by any reason is rejected by the body and eliminates itself so that it will not affect a healthy body. If any cell is damaged, it can spoil all other cells and thus the whole organ which in turn can affect the overall fitness of the body as living creatures require cells, tissues and organs working in synchrony for proper functioning. The process of cell suicide in human body is therefore similar to asking the nonperforming employees in an organization to voluntarily resign.

One very important aspect to consider before applying this biological observation is the culture of accountability that exists in human body at cellular level where cells as employee demonstrate high levels of accountability and bear high levels of ownership to think and act in the manner necessary to realize organizational goals. In such a Culture of accountability, individuals at every level of the organization are personally committed to achieving common goal as done by each cell in human body for the purpose of its healthy survival.

In order to maintain such performance oriented culture, each cell is equipped with related receptors to detect any stimuli affecting organ's routine functioning. Therefore in order to implement this biological insight to organizations, managers will have to work continually to create and maintain such a culture. In order to adopt this each unit or employee of organization (like in cell) has to be provided with necessary information. And also a level of liberty to perform their way should be approved. But the employee must know that if they do not perform, they will be held accountable. For example, if the organization has an employee whose skill set (or intentions) does not permit him/her to perform the jobs/duties, and after sufficient discussions about poor

performance they both decide it is best to part ways. Then, it is similar to how a cell departs. Instead of firing an employee, an organization might want to offer him/her the opportunity to voluntarily resign. This can protect the employee's work record by saving her the embarrassment and, possibly pay the price of having been fired from a job. A future potential employer may not view it as a dismissal. Many times, the employee will be grateful for allowing him/her to tender resignation instead of facing the termination in an adversarial manner.

The consequences of not eliminating such non performers are very serious. It hampers the overall productivity of the organization and thus makes it hard to survive particularly in a competitive environment

This situation can be further supported by comparing the performance monitoring system in private and government organizations. In government organizations the practice is not to terminate any employee irrespective of their performance. Such an advantage of being associated with the government institution is known to everyone and thus may make them less motivated to work hard. Also the eligibility of an employee to get increment depends on years of service or job experience irrespective of their performance. This actually demotivates genuine performers to work effectively. On the other hand in private organizations, good performers are rewarded while non-performers are punished for their poor performance. This result in putting up of more serious efforts by the employee to avoid being penalized. This makes private organizations more efficient than many government ones.

According to Guha (2), governments also had tried to handle this situation in many ways to resort to redundancy of work force have as a last resort; Voluntary Retirement Scheme(VRS) is found to be a better alternative than outright retrenchment. According to Chitra (8) VRS is one of the strategies introduced in the early 1980s in Central Public Sector Undertakings (PSUs) to reduce the so called surplus or redundant workforce.

Mainstream economists have perceived the voluntary retirement as a measure to shed the workforce whose marginal productivity is zero (Guha, 2). But this strategy of 'downsize with dignity' was not only proved unsuccessful but also led to some other consequences. The problem was that the eligibility criteria for the scheme among other aspects do not involve performance of the employee or it was an open option for all employees with few constraints. And the result was that the good performers have opted for this scheme and after leaving the government organization, they seek to join other jobs. Hence, the

problem at hand was left unaddressed. Had the government introduced this policy in a form where performance is linked to the eligibility for the scheme probably they would have succeeded in handling non performers. Learning from the cell the cell extinction could therefore a very insightful model for policy deployment.

Human body organization not only represents an organization structure but also the strength, strategy and culture to make its constituent units perform. It is not just the structure that can be imitated but a philosophy that needs to be analyzed and understood to solve performance related issues in the organization from the broader systems level up to the basic constituent units. This paper takes an initiative of developing its biologically inspired management system.

CONCLUSION

There is lot that can be learnt from the Human body, the Nature's best creation. Based on the discussion, we have seen that human body is analogous to a corporate organization and also the human body cells are like the employees of a corporate organization. From this we could analyze and understand the strategies followed by the human body in managing various issues related to its constituent units. We know that the prerequisite to employee performance is the culture of accountability to achieve organizational mission. The application of cell self-destruction in human body provides an excellent strategy to the organizations in designing an appropriate performance management system.

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