



Algebraic Modeling of Bhagavat Gita: Group of Human Resources for Aptitude

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Abstract:

In this paper, we present a model of the Bhagavat Gita as an Algebraic Group of Human Resources for Professional Human Resource Management. An individual is considered as an algebraic Group of Human Resources (Soft skills, Outer and Inner human Resources) under the binary operation, Karma-Yoga (Professional Aptitude). In this paper, we investigate the Human Resources Management principles mentioned in Bhagavat Gita and their Group theoretical formulations.

Key Words: Algebra, Group, Human Resource Management, Bhagavat Gita, Aptitude.

1. Introduction:

Bhagavat Gita, which is a part of the great Indian epic, Mahabharata, had studied by scholars from various fields like Management, Psychology, Education, Humanities, Upanishads, Politics, Social work, and Spiritual Sciences. The first chapter is a preface and the slokas from 2.40 to 15.20 explains and concludes the science part of Bhagavat Gita. In this paper, we present and investigate the Mathematical model of the Science of Bhagavat Gita as an Algebraic Group Theory of Human Resources for Professional Quality Improvement and Human Resources Management. The only Mathematics used in this paper is the notion of an “algebraic Group”, which is the abstraction of the algebraic properties of our familiar integer numbers under the addition operation. In abstract algebra (*Bija-Ganitam*), objects in the universe with similar algebraic properties are investigated.

A Group is a Mathematical structure, denoted by a pair, $(G, +)$, consisting of a non-empty set, G , a binary operation (denoted by $+$) defined on G satisfying the following four properties:

- 1) Closure Property: $a + b \in G$ for all $a, b \in G$
This simply means that the sum of any two elements of G is again an element of G .
- 2) Associativity: $a + (b + c) = (a + b) + c$ for all $a, b, c \in G$
This simply means that the sum of three given elements of G can be computed in any order.
- 3) Identity Property: There is an element, say 0 , in G such that $a + 0 = a$ for all $a \in G$
This simply means that there is an element in G which doesn't alter any element when added to it.
- 4) Inverse Property: For any a in F , there is an element, called as $-a$, in G so that $a + (-a) = 0$
This simply means that every element of G has an additive inverse in G .

In the next section, we will show that the set, G of all Human resources forms a Group under the operation Karma-Yoga (Professional Aptitude). Reader may refer any good book on Bhagavat Gita like [1] for slokas from Bhagavat Gita with translation. For Mathematical terms and definitions not explicitly defined here, one may refer Fraleigh [2].

2. Main Results:

Let G be the set of all Human Resources of an individual (Soft skills, Outer and Inner Human Resources) and let Karma-Yoga (Professional Aptitude) be a binary operation, denoted by $+$, defined on G . In HRM, Karma-Yoga adjoins two Human resources to an enhanced blended Human resource/skill. We see that the first part of Bhagavat Gita (2.40-6.47) explain the four axioms of an algebraic Group, $(G, +)$.

The Mathematical model of the Bhagavat Gita as an Algebraic Group of Human Resources and it identifies a human being as an algebraic Group of Human resources (Soft skills, Inner and Outer human resources) under the binary operation,

Karma-Yoga. In this section, we investigate the Human Resources Management (HRM) principles mentioned in the Bhagavat Gita and their Mathematical formulations in the algebraic Group theoretical terms.

2.1. Closure Property (*Karma-Yoga*):

The later part of the second chapter (namely *Sankhya Yoga* 2.40-2.72) explains the absolute knowledge about the Cosmic Intellect, which is the supreme personality of godhead (as personified as Lord Krishna in the Bhagavat Gita) and the need of an individual to control the senses, the mind and the intellect (who are called *SthitaPrajna*) to realize this knowledge in one's actions/decisions. This will lead to enhanced Professional resources/skills for one's actions/decisions, called as Karma-Yoga, whose nature is further explained in the third chapter (namely *Karma Yoga*) as the Right Professional Aptitude for one's actions/decisions.

Karma-Yoga is the Aptitude, a way of action, thoughts, and willingness for an individual to orient oneself towards the realization of the right Professional Aptitude by which an individual can execute the actions/decisions without any selfish motives but only aiming at the excellence, which is the supreme personality of Godhead, as Lord Krishna himself told in the tenth chapter (10.41):

*Yadyat-Vibhutimad sattvam SreemadUrjithameva va
Tattadevavagacah tvam mama tejoAmsasambhavam*

“Anything, prosperous and excellent in this universe, is a part of the cosmic intellect”. Since inaction is the death, everyone has to act according to one's nature to live in this world. Not only the acts of thinking or talking, but all kinds of physical works are also included in Karma and only right action can help us to continue our life cycle. Karma as divine service is only a beginning and through such actions we can also reach the highest goal of human life. As pointed out by BC Gogoi [3], every individual is born with certain aptitude and predisposition which constitute his innate nature and determine his station in the society. The basic difference is that human-gods realize it, but common man does not.

The later part of the second chapter, namely *Sankhya-Yoga*, explains the Consistent Cosmic Intellect (*Vyavasyatmika Biddhih*) (2.40-2.48) of an individual as the pre-requisite for the right Karma-Yoga. With this human resource quality an individual should have a Consistent mind (*Stitha Prajnan*) (2.49-1.56), a Consistent Senses-orientation (*Stitha-Prajnan*) (2.57-2.64) and a Consistent Intelligence (*Brahma-Nishta*) (2.65-2.72). When an individual can adjoin this cosmic knowledge with every actions/decisions, then that is defined as a *Karma Yoga* (Professional Aptitude) and this is our first Mathematical operation (addition) on the set G and corresponding to any action, the Karma Yoga (Professional Aptitude) of two human resources is another enhanced human resource and thus it is also an element of the set G. Hence the first axiom of an algebraic Group is satisfied.

That the above binary operation is well defined is explained in the third chapter, namely *Karma-Yoga*. The basic nature (modus operandi) of the *Karma Yoga* (Professional Aptitude) such as the nature of Professional actions-*Karma* (3.01-3.08), the need of Professional action to be with selfless motives resulting them as a service to Humanity (3.09-3.16), the inevitability of actions for individuals (3.17-3.24), the nature of the right Aptitude of actions (3.25-3.32) and the need of eliminating the greed and anger (3.33-3.43) for Karma Yoga (Professional Aptitude) are well explained in the chapter.

2.2. Associativity Property (*Jnana-Karma-Sanyasa yoga*):

The associativity property of this operation of Karma-Yoga is defined in the 4th chapter, namely *Jnana-Karma-Sanyasa yoga*, as the action of dealing multiple human resources with a sense of Knowledge of Renunciation. When an action requires more than two human resources, an individual can create the right professional aptitude by adjoining them one after another (hence continuously) in any order. This defines the Mathematical property of associativity of human resources.

This continuous human resource quality improvement strategy is the pioneer notion of the modern continuous Quality Improvement Technology as popularized by the Japanese scientist, Ishikava [4], who proposed quality control techniques such as Quality circles, Pareto charts, Ishikawa diagrams etc. Thus, associativity of human resources means a continuous process of quality improvement of human resources for better professional action as explained below:

*Yadayadahi dharmasya glanir bhavati bharathah
abhyuthanamAdharmasya Tadatmanam srujamyaham
paritranaya Sadhunam Vinasaya ca dushkritam
dharma samsthananarthaya sambhavami yuge yuge (4.07-4.08)*

“Whenever there is a decline in the quality (dharma) and wherever bad practices arise, the cosmic intellect of individuals will be stimulated (Tatatmanam srjamyaham) and to retain the good practices and to eliminate the bad practices, our cosmic intellect works continuously from time to time (sambhavami yuge yuge)”.

2.3. Identity Property (*Sanyasa-yoga*):

The Sanyasa is a human resource, whose nature is explained in the 5th chapter, namely *Sanyasa-yoga*, and it is formally defined as the “Non-fruititive Aptitude towards actions/decisions”. If we adjoin this with any other human resource in any action, the later human resource will stand as it is, since Sanyasa is non-fruititive nature. Thus this human resource, Sanyasa, is the Mathematical identity element of the algebraic field, F.

The nature and development of this human resource, Sanyasa is explained in the 5th chapter, namely *Sanyasa-yoga*. It is clearly stated that the Karma-yoga is the same as the Jnana-yoga (5.5). The nature of a true Karma-yogi (5.1-5.8) and the means of attaining it by Jnana-yoga, which is the the absolute knowledge of the cosmic intellect (5.9-5.16) are explained. Further, it is explained that when a Karma-yogi becomes a Jnana-yogi, the individual can feel the goodness within himself thus becoming the real human being (5.17-5.24) and ultimately he discovers the knowledge of Atma and Brahma, thereby acquiring the rare Brahmananda (bliss) and Santih (peace) (5.25-5.30).

2.4. Inverse Property (*Nishkama Karma-Yoga*):

Renunciation in any action (Nishkama Karma-Yoga) means discarding the benefits of the actions thereby concentrating on the quality of the way of doing the action. It can be developed in individuals by stimulating the Inner Human Resources, whose nature is explained in the 6th chapter, namely *Atma-Samyama Yoga*.

The nature of *Nishkama Karma-Yogi* is explained in the 6th chapter, namely *Atma-Samyama yoga*. It is explained that such an individual is with constantly controlled senses and mind in actions (6.01-6.08), with constantly controlled intellect in actions (6.09-6.15) and with constantly controlled thoughts and resources in actions (6.16-6.24). Further, it is described how *Nishkama Karma-Yoga* can be attained by an individual with non-constant mind (6.25-6.32), but through another human resource, namely, concentration (*sraddha*) (6.33-6.40) and the chapter concludes with a description of the nature of the individuals, who do not attain *Nishkama Karma-Yoga* and the fruitive results of the excellence of being a *Nishkama Karma-Yogi* (6.41-6.47). Thus, the nature of *Nishkama Karma-Yoga* is that it transforms the actions into non-fruititive actions, so that when it adjoins with any human resource, it will result in the Sanyasa human resource. This is the Mathematical definition of the additive inverse of human resources.

3. Conclusion:

Mathematical formulation of the Human Resource Management principles mentioned in the Gita is an active research that can be done extending this work. Some of these like the Bloom’s Taxonomy levels of cognizant domain of the learners and the continuous quality improvement principle are discussed here. On the other way, we can consider the abstract algebraic Group theory concepts as applied to the Human resources to investigate the resulting HRM principles which will be the extensions or variations of the HRM principles mentioned in Bhagavat Gita.

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