# Management: A Key to Development in Jamaica

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*The article analyzes a sample of Jamaican private sector establishments, from agribusiness to cosmetics. Evidence shows the main impediments to higher productivity are managerial. We analyzed the most salient shortcomings in nine areas to ascertain their relation to the core problem of inadequate management. These areas were not analyzed mathematically, except for maintenance where the cutting-edge mathematics of the O-Ring Model of productivity was used. We demonstrated that the managerial problems have feasible solutions through technology, education and training.*

## INTRODUCTION

After visiting some seventeen factories and outlets ranging from agribusiness to cosmetics and probing the needs of the private sector of Jamaica, it was concluded that main problems in reaching higher rates of productivity are in the area of management. Specifically, the most salient and obvious shortcomings are:

1. Communication
2. Decisiveness
3. Accountability
4. Apathy
5. Disdain of Manual labor
6. Interpersonal relations
7. Maintenance: A Spillover of Management
8. Marketing
9. Pricing

We shall analyze each issue under discussion to see how it relates to the core of the problem, which is inadequate management. At the same time, we will come out with some suggestions, as to why and how we feel the problems can be surmounted.

## ANALYSIS

The nine sections will be treated non-mathematically with the exception of section seven, maintenance, which will employ relevant cutting edge mathematics--the O-Ring Model of Productivity--in order to illustrate the power of such tools in business analysis. The O-Ring Model of Productivity will also be used to focus on the critical role of maintenance in the business and economic process.

Although the application of the O-Ring theory to economic development is not novel (Basu, 1997),

maintenance within the context of management for development and dependency has not been widely studied and consequently merits our analysis. We hope that our analysis will encourage others to do further research in this area.

**Communication**

Communication is a process for the replication of memories, and it involves a sender as well as a receiver. It implies cultural affinities and the mutuality of interest. It appears that the case in question is one where there is quite a bit of filtering (distortion), for the manager-supervisor exemplified by the College of Arts, Sciences and Technology (CAST, established in 1958, now U Tech) graduate, who for cultural reasons, wants to disassociate himself from those whom he supervises, i.e. the operative (line) level personnel (Johnson, Freemont, & Rosenzweig, 1964).

**Decisiveness**

Decisions can only be made when there are alternatives. A traditional society does not give alternatives. Choice is a privilege, in those types of societies, held by the colonial. The colonist does not have a choice, nor is he taught, hypothetically, to make decisions (Simon, 1959). Decision-making not only involves a waste of time as a resource but also the possibility that the colonist would rebel, and at the *very* least *say* like Oliver Twist "**More.**"

It is worth mentioning that in regards to problem solving, which is a very significant aspect of decision-making, we obtained data that corroborates the above alluded problem of decisiveness. Upon interviewing middle managers, as well as operative level personnel, and asking them how they could solve some of their problems, the overwhelming majority of those interviewed, answered that it could be done primarily through outside help. This, coupled with the Jamaican colonial historical background of dependency leads us to believe that decision making related to problem solving is not one of their strong points.

**Accountability**

"A fair day's pay for a fair day's work" is the conservative motto of incentive for work, the revolutionary being "abolition of the wage system and emancipation of the working class." Although, different governments espouse different political philosophies, in traditional societies the conservative motto prevails for it clearly delineates tasks and leaves decision-making to the proprietors (Scott, 1967). Why should non-owners take responsibility, when it is known that it is never delegated or compensated.

Unlike a developed society, where true responsibility is never delegated, the risk involved in the delegation of authority is compensated by pay, status, or other perks. The interviewees, middle managers as well as operative personnel, felt that having the job that they had was sufficient accomplishment in itself.

**Apathy**

Apathy is the result of the inability to communicate vertically. Virtually all the interviewees manifested this inability. Their constant mentioning that things in life are not going as well as they should and that things are getting beyond their control further substantiates the existence of apathy.

**Disdain for Manual Labor**

Love of manual labor is the product of societies that have an artisan tradition. Jamaica, of course, has not had a traditional artisan class. Virtually everyone interviewed accepted this fact.

All the discussed outlined items, lead to the situation in which manual labor is placed in a socially negative context.

**Interpersonal Relations**

Let us recapitulate. We have a supervisor who has gone to a technical type of school, e.g. College of Arts, Sciences and Technology ( CAST); to get out of manual labor related tasks. Yet this person's work

setting is one where he deals directly with individuals whose tasks are virtually totally manual, and supervises their functions and serves as an example.

He is in a situation in which success depends on his ability to communicate with the world from which he is trying to escape.

The supervisee sees this type of supervisor often as pedantic and aloof, not necessarily incapable of understanding his plight, but rather not wanting to understand it. Sometimes this mentioned type of supervisor is capable of communicating with top management or proprietorship, but in most cases **he is not**; since this individual has not had the advantage of appropriate training nor has he had the experience of the top management or that of proprietors. We venture to say this in spite of the fact that Jamaicans are well known for their acquisitiveness and entrepreneurial behavior. (Simon, 1959).

The above discussed shortcomings reveal themselves in conflict-based sociological and psychological processes that, in the particular case of Jamaica, have a strong impact on productivity. Synthesizing, we propose to come out with solutions that will help make the firms more cost-effective and productive.

**Maintenance: A Spillover of Management**

One of the spillovers of the management problem is Jamaica's current attitude toward the problem of maintenance, being **repair for preservation** (Banks and Wheelwrights, 1983).

We shall use the O-Ring Model of Productivity, in order to illustrate the power of such tools in business and economic analysis, as well as to focus on the critical role of maintenance in the business and economic process.

The basis of the O-Ring Theory or Model rests on complementarily between components and or inputs of a production or distribution process. The theory first proposed by Kremer (1993), is named after the space shuttle Challenger that exploded because of the lack of complementarily of some of its inputs.

To simplify this exposition let us consider that each input consists of a task of the management process involved in the manufacture of a product and that each task is carried out by a single person. We are going to say that the work skill of a task is $\mathbf{q_i}$ **,** where $0 \leq \mathbf{q} \leq 1$. We should see **q** as the probability of completing the task successfully. Let us suppose that for the product to actually materialize, each task has to be completed successfully. Have $\mathbf{q_i}$ be the level of skill or quality needed in activity **i**. Let **B** be the production divided by the number of tasks, when all the tasks are carried out successfully. The workers are of q, where $0 \leq \mathbf{q} \leq 1$. Let us assume that in the Jamaican economy there are **N** workers uniformly distributed in the intervals {0,1}. Therefore the number of workers that have skills less than **Q** is given by **QN**.

Then if **y** denotes the expected volume of production or the expected volume of sales, or any other expected variable, we would have the following situation:

$$Y = q_1 * q_2 * \ldots\ldots\ldots * q_n * n * B, \text{ that is}$$

$$Y = \left(\prod_{i=1}^{n} q_i\right) * n * B$$

Let **w(q)** be the salary for each type of task of **q** skills in competitive equilibrium.

The firm solves its maximization problem as follows:

$$\text{Max} \left[ \left(\prod_{i=1}^{n} q_i\right) * n * B - \sum_{i=1}^{n} w(q_i) \right]$$

This gives us the first order conditions for each task/level or input **i**

$$w'(q_i) = \left(\prod_{j \neq i}^{n} q_j\right) * n * B$$

It could be shown that profits maximization is obtained by having $q_1 = q_2 = \ldots\ldots = q_n = q$, then:

$w'(q) = q^{n-1} * n * B$, then integrating we have the following:

$w(q) = q^n * B$

From this expression we gather an almost intuitive conclusion: that the salary or, in a more general manner, that the cost of each input is an increasing function of the quality required of each input. But what is more important for this paper is that the equality of the quality is a condition necessary for optimal performance.

This implies that because the input **manager/supervisor** is incompatible with the input **supervisee,** the quality of the final product is low. It implies, as well, that an input such as a **transitory manufacture conditions** is incompatible with **local labor**. Both of these situations translate into low levels of maintenance.

The requirements for compatibility of input **i** are unequal to the requirements for compatibility of input **j** because the inputs have different vectors. Above we have demonstrated mathematically that heterogeneous vectors of skills and or qualities can never lead to optimality.

Through the O-Ring model/ theory (especially through equation $\mathbf{q_1 = \ldots = q_n)}$ it is explained that in imperfect competition (the real world) increases in technology and education can teach the Jamaican managers to communicate with the supervisees and thus, to substantially reduce maintenance related problems which at their core are managerial problems.

Indeed, any type of training to improve maintenance will have to go to the core of the problem which is **management**. The fact that the interviewees very often sustained that maintenance was virtually an insoluble problem arises from the lack of managerial tradition in Jamaica. This, of course, stems from a colonial, exploitative type of society where enterprises, or any type of enterprise in Jamaica, were established on a temporary basis.

To the colonist inculcating maintenance habits among natives, meant, establishing more degrees of permanency and thus having less dependency on the metropolis. Consequently, training natives in "**the managerial function**" would also mean getting away from the mother country.

**Marketing**

An area that also needs imminent attention, is the distribution function. Of the 17 companies visited; 14 powerfully cited their need to improve marketing systems. As we all know, agricultural products all over the world have traditionally suffered from a high number of intermediaries, and this same phenomenon is also applicable to Jamaica. Coupled to this- it was gathered from the interviews that Jamaicans are entrepreneurial minded (Gilles, et al, 1996). This attribute, which in most cases is an asset, here is a handicap. However, it is one that can be surmounted by "Gestalic seminars" training, such as Gestalic Approach Seminars on: Merchandizing, Sales, Company's Benefits, Commissions, and Employees Roles.

**Pricing**

Another area that needs substantial improvement **(**and could benefit from our expertise**)** is the **price mechanism.** It appears that 75 percent of the companies visited had difficulties with pricing. We realize that pricing is not nessari1y done anywhere in the world, by the price setting mechanism of economic textbooks. Rather businesses price on the basis of historical trends, intuition, the foreign exchange cost, and visceral variables. However, in Jamaica, perhaps because of this overly entrepreneurial mentality and a desire for short-range profitability, pricing is made very spontaneously.

There is hardly any visible pricing policy that takes into account maximization of the use of production facilities, inventory levels and cash flows. *Judicious* pricing is another important factor for long-range maximization of the firm's value (Baumol,1972). Marketing seminars with emphasis on pricing would help alleviate the above mentioned situation.

## CONCLUSIONS

All of these touched areas are questions that to some extent and in some cases, to a large extent can be resolved through education.

The O-Ring Theory has helped us see that in the long run the skill/capacities of the inputs 1, 2, 3, …… , n utilized in management should increase complementarily. That is, if $\mathbf{q}_i$ is the skill of input **i**, then $q_1=q_2=q_3=.....=q_n$. This proves, mathematically, that the above mentioned managerial problems have feasible solutions in imperfect competition (the real world) with variables such as the dynamism of technology, education and training. Improving managerial skills leads to: better communication, better pricing, decision making, enriched human relations, optimization of productivity, and removing feelings of dependency.

For indeed, by improving the managerial skills of the supervisors--through courses/seminars or on the job training--the manager can learn that finding and accentuating affinities between them and the supervisee leads to a better communication vertically downwards.

Also the supervisor can learn that good vertically upward communication can lead to the amelioration of the alluded to feeling of apathy. Managerial education can also teach that appropriate training and appropriate perks can remove feelings of dependency and enhance Human Relations skills as well as decision-making and accountability.

Management and pricing proficiencies are very educable skills that are to be taught within the context of the local as well as international markets. Skills in all of these areas optimize productivity as well as profitability and should be taught along with all the available modern computer techniques. Training these managers involves a Gestalic approach. A Gestatlic approach translates into actually not only preparing managers for the needs of the particular companies, but for the Jamaican economy/society as well.

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