Scientific Management Theories and Philosophy in the Food Service Industry

Jeong-Gil, Choi*

ABSTRACT: This study reviews the scientific management theories and discusses those theories within the food service industry. By providing the principles and the practical implications of the theories on the food service industry, this study tries to identify their philosophies and usefulness to the industry so that the managers in the industry use them in their dynamic operations.

Key Words: Food Service Industry, Scientific Management Theory, Need theory, Motivation theory, Maintenance theory

I. Introduction

In many ways, the food service industry is in the process of its own "Industrial Revolution". The food service industry is today transferring skills from the hands of skilled craftsmen, the chefs, to the machines of the bulk processors. The saucier is being replaced by pre-processed fresh and frozen vegetables, the chef is being replaced by fully prepared entrees, the waiter and waitress by the cafeteria or fast food counter aide, the server by the vending machine. Along with these changes, managers in the food service industry are facing a challenge in terms of managing people in the organization. Managing people in the organization is a complex and difficult process. But it must be accomplished effectively as well as efficiently because organizations are made of people as well as dependent on people to achieve their targets. Therefore, all efforts of the managers in the organization should be focused not only on customers, but also on their staffs to achieve their goals.

This study reviews well-known management theories and discusses the theories in the scope of the food service industry. It does so to help managers in the industry apply the implications of the theories to run their operations effectively. Scientific management theories discussed in this study include Taylor's and Gilbreths' the scientific management

* Jeong-Gil Choi, Ph.D. candidate
  Virginia Polytechnic Institute and State University, USA

approaches, Maslow's need hierarchy theory, Herzberg's motivation-hygiene theory, Chris Argris's motivation theory, Mcgregor's theory X and Y.

II. Food Service Operation and Management Theory

II-1. Research on Scientific Management

Scientific management is a broad term encompassing a wide variety of specific techniques which include, among others, human engineering, personnel administration, plant layout and design, time and motion study, production planning and wage incentives. These concerns, which may be said to fit under the topic of efficiency and production, have been closely studied throughout this century.

The principal researcher in modern scientific management was Frederick W. Taylor. It was Taylor's philosophy that management should establish wide-ranging overall daily goals and that the laborer should be rewarded for achieving these goals but punished for not achieving the goals. Under the Taylor philosophy, production costs would soar. Taylor's answer to this problem was that, although labor costs would rise, production would rise at an even faster pace, thereby lowering the cost per unit of production. Taylor's four principles of scientific management are the foundation of modern management thought:

1. Employees should be scientifically selected, trained and placed in jobs which closely relate to each individual's capacity.

2. The work to be done should be scientifically analyzed to reduce the physical effort needed to accomplish the employee's tasks.

3. There should be close cooperation between the planner of the work and the employee.

4. Management and labor should share equal responsibility in the accomplishment of the work.

Another significant quantity of research findings in scientific management was the result of the extensive work of Frank and Lilian Gilbreth. The Gilbreths were responsible for much of the early development of the methods now universally applied by industrial engineers. Frank Gilbreth conducted basic hand motion analysis and Lillian Gilbreth widened the recognition, common today, that psychological factors affect industrial productivity. The scientific approach would lead us to believe that altering environmental and/or physical factors in work will lead to higher productivity. This is not necessarily so, as demonstrated by a five-year experiment conducted at the Hawthorn works of the Western Electric Company.

In this experiment, a small group of employees was segregated in a special room away from the regular assembly lines. Between 1927 and 1932 the production and physical factors of their situation were, one at a time, continually changed. The study found that the changes of the environmental and/or physical factors did not affect the productivity. Productivity increased steadily for the entire five years. Regardless of change, the rate of absence was reduced by 80%, and absence because of illness was reduced by two-thirds. The final analysis of the reason for the long term gain in productivity attributed it wholly to human factors. The human factors responsible were greater freedom, less strict supervision and the opportunity to vary the work pace.

II-1-1. Implications

Professional food service management is required to consider the implications of the above studies. The lesson they teach is that in the long run, productivity is affected in a positive manner by a pleasant, free and happy working environment. When the basic working conditions of a physically adequate - preferably physically pleasant - food service facility are provided, then the psychological environment will be a prime determinant in motivation vis-à-vis productivity.

II-2. Need Hierarchy Theory and Food Service Management

The most widely known need hierarchy theory was developed by Abraham Maslow during the 1940's.[1] In 1943 the late Abraham H. Maslow conceived of a new way to view the human needs. One of his most abiding ideas is that our needs influence behavior. Specifically, Maslow said that unsatisfied needs trigger behavior. If an individual perceives an opportunity to satisfy an unsatisfied need by performing some work, then the individual is motivated - motivated to perform the work as a means to achieve the desired end (i.e., satisfying an unsatisfied need).

The hierarchy of needs categorizes human needs into five stages, and states that a lower need must be at least partially satisfied before the next higher need becomes a motivational factor. Maslow ranked as follows:[2]

1. *Physiological needs*: the needs related to sustaining life (e.g., oxygen, food, shelter). These needs are obviously never fully satisfied and, in many respects, are quite different form the other needs in that they are relatively independent of others. (A self-actualized person still needs food and drink.)

2. *Safety needs*: the needs related to the security and stability of one's life. Structured, orderly, and predictable- not chaotic.

3. Belongingness and Love needs: the needs related to being accepted as a member of a family, a clan, a work group, etc. Love is not synonymous with sex. Love needs relate to the need for openness (intimacy) in human relationships.

4. *Esteem needs:* the needs include both self-achievement and the respect of others.

5. *Self-actualization needs:* the need for each individual to realize his/her unique potential.

A list of the general rewards and organizational factors used to satisfy different needs are illustrated in Exhibit 1.

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[1] Maslow, A. H. (1943). A theory of human motivation. Psychological Bulletin, 50, 370-396.
[2] Maslow, A. H. (1970). Motivation and Personality, 2nd ed. , New York: Harper & Row, pp. 35-46

Exhibit 1 Applying Maslow's Needs Hierarchy

Need Levels	General Rewards	Organizational Factors
1. Physiological	Food, water, sex, sleep	a. Pay b. Pleasant working conditions c. Cafeteria
2. Safety	Safety, security, stability, protection	a. Safe working conditions b. Company benefits c. Job security
3. Social	Love, affection, belongingness	a. Cohesive work group b. Friendly supervision c. Professional associations
4. Esteem	Self-esteem, self-respect, prestige, status	a. Social recognition b. Job title c. High-status job d. Feedback from the job itself
5. Self-actualization	Growth, advancement, creativity	a. Challenging job b. Opportunities for creativity c. Achievement in work c. Advancement in the organization

Source: Cherrington, David J (1994). *Organizational behavior: the management of individual and organizational performance*. 2nd ed. Paramount Publishing, p. 136.

Maslow viewed the hierarchy as fluid and dynamic, not rigid, and a matter of individual definition.[3] Hunger, for example, might be satisfied in a variety of ways; however, how individuals define that need is strictly their choice. The existence of the need hierarchy specifically ordered in the five levels has never been proved or disproved. Few, however, question the existence of needs. And this is where Maslow's idea becomes so practical.

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[3] Ibid., pp. 51-58.

II-2-1. Implications

What are the implications of the theory for the food service organization? Maslow's theory can be adopted widely by food service organizations and used frequently to guide important management decisions.   The theory suggests that rewards or opportunities which satisfy currently active needs of employees will be motivating.   It would seem reasonable, therefore, for food service organizations to assess the need levels of their employees and identify which types of organizational rewards and opportunities would be most valuable.   The model is an individual one, though, so organizations must realize there will be differences in need states across people.   If not, organizations may lose its motivating power to the people in the different levels in the hierarchy.   Thus, different rewards and opportunities are needed as an individual grows within an organization.   As organizational members move up in the organizational hierarchy, their needs move up the hierarchy.   Maslow argues that this is desirable, particularly if a person reaches the self-actualization level.   Once a person engages in self-actualizing behavior, he/she will be motivated to continue reaching higher levels of accomplishment.   However, there could be an undesirable situation when an organization adjusts to every individual need, and vice versa.   This is because there is no limit in the human needs.   For example, a conflict situation can happen between management and labor union, particularly in the process of negotiation.   Thus, setting the proper levels of needs and rewards of an organization is critical and this can be achieved by continuous research on the employees and the organization as a whole.

III. Motivation and Maintenance (Hygiene) in the Food Service Industry

III-1. Human Behavioral Approach to Management

The behavioral approach to management and motivation centers on the human element.   The behaviorists contend that interpersonal relationships are at the heart of

getting things done through people. Everything in food service depends upon interpersonal relationships. There are extensive human contacts in every aspect of food service work. The theories explored below can be considered as a core philosophy of the food service operations that want to enjoy long range success.

III-2. Motivation-Hygiene Theory and Food Service Management

The Motivation-Hygiene Theory was developed, researched, and widely published by Frederick Herzberg.[4] Herzberg argued that there are only two sets of needs. The first set of needs he called "motivators": (growth needs). Motivators related to job content and the ability to achieve and, therefore, experience psychological growth. The second set of needs he termed "hygiene" (pain-avoidance). These needs relate to the job environment and stem from human nature and the "built-in-drive to avoid pain" (plus learned drives developed to help avoid pain). The hygiene and motivational factors classified by Herzberg are listed in the Exhibit 2.

Exhibit 2. Factors Affecting Job Attitudes

Hygiene factors	Motivational factors
Company policy and administration	Achievement
Supervision	Recognition
Salary	Work itself
Relationship with supervisor	Responsibility
Working conditions	Advancement
Relationships with peers	Growth
Personal life	
Relationships with subordinates	
Status	
Security	

Source: Herzberg, F., Mausner B., and Sayderman B. (1959). The Motivation to Work. New York: John Wiley & Sons.

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[4] Herzberg, F. Mausner, B., & Snyderman, B. (1959). The motivation to work. New York: Wiley.

III-2-1. Motivation Needs in the Food Service Management

Motivation factors involve the long-term need to pursue psychological growth. Motivators relate to job content (achievement, recognition, and the work itself). Herzberg also refers to these factors as "satisfiers" to reflect their ability to provide satisfying experiences for employees. When these needs are met, employees experience satisfaction. Because these needs are capable of providing satisfaction, they also are said to be capable of motivating employees. More specifically, Herzberg believes motivating factors lead to performance (achievement), which leads to satisfaction. One implication of Herzberg's theory is that satisfaction and dissatisfaction should not be considered as opposites. It is not possible, according to Herzberg, to use one continuum which contains both satisfaction and dissatisfaction. Instead, one continuum is used to describe a person's level of dissatisfaction.

Chris Argris theorizes that traditional management fails to recognize the difference between the adult and the child.[5] Argris contends that industry often forces grown men and women to spend their entire work life suppressing their brain power to maintain systems that may or, more likely, may not be efficient. This is a situation met by many in traditional food service management. It occurs because (1) the food service organization is often quite inflexible, and (2) the food service operator frequently fails to recognize the unintentional communication barriers that exist in his organization.

A look at Argris' seven principal differences between child and adult should help the food service operator to recognize the all-too-common barriers to motivating higher productivity that may exist in his organization. These differences point up the importance of treating employee as purposeful adults. For the purpose of this discussion, an "adult" is a grown man or woman who has attained a state of maturity which enables him/her to distinguish right from wrong, to react to criticism in an objective manner and to weigh and value long term effects of actions over momentary pleasures. A "child" is a person who

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[5] Agryris, Chris.(1960). Understanding Organizational Behavior. Homewood, Ill.: Dorsey Press.

lacks the above stated quality of an adult and who, moreover, is dependent upon the support of others to sustain even minor decisions.

In his analysis of the mature vs. the immature employee, Argris states: (1) Whereas children need close supervision, the adult is mature enough to handle trust. The adult does not need close supervision, what he/she needs is a clear indication of what is required of him/her and why. (2) A child has few values, but the adult has a clear set of values which are a product of his entire life experience. The adult will make any sacrifice, even his/her job, to defend his/her personal price or sense of equity. (3) The child is a learner and most of what he/she experiences is new. While the child may be fascinated by something and repeat the same simple tasks almost endlessly, the adult is bored by the endless repetition of one set of actions. The endless repetition of some jobs in the food service industry such as dish machine operators, pot washers indicates that not all food service employees should be "mature" adults. Because a mature person may be hopelessly bored by repetitious jobs, it may be necessary to hire child-like or immature people for such jobs if such jobs cannot be enlarged and enriched with other non-repetitious tasks or eliminated via automation. (4) The child has few skills and limited creativity as compared to the mature adult. An adult will consider a task a challenge to his skill and creativity. (5) The child has a short memory and limited ability to see the future. The adult, as a result of long experience, is able to make judgments regarding the future that are based on his experience. This means that the adult may be willing to make short sacrifices where he sees the possibility of a long term gain. (6) Children need close supervision if they are to form proper values and to assure their physical safety. An adult is capable of performing tasks, once properly instructed. Being bossed is a burden to an adult. (7) The child's ego is being formed and, as such, is not easily bruised. The adult has a fully developed ego which must be recognized and dealt with.

McGregor has made extensive studies of both management technique and employees' behavior.[6] His analysis shows that excessive controls over employees serve to

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[6] McGregor, Douglas. (1960) The Human side of Enterprise. New York: McGraw Hill.

provoke uncooperativeness from those people for whom plans fail. Making the controls tighter only aggravates the situation. Food service operators often make the mistake of over-supervising employees, requiring too many checks on production control and materials issues. The point of McGregor's analysis that food operators should act upon is that people seek responsibility as an avenue to fulfillment. If an employee is not given latitude and the opportunity to assume full authority and responsibility for his work, then supervision will continue to be a psychological burden for the employee and an economic burden for management.

The McGregor theories are known as Theory X and Theory Y. Theory X is typical of the management attitude of food service operators who deem themselves essential to every daily activity in their operations. Such managers are probably insecure and their operations do need them. The food service operators who follow the Theory Y school of management, however, seem to have smooth running operations even though they are rarely in on the daily activities in their operation. The Theory X people develop only short term effectiveness whereas the Theory Y people develop long range effectiveness through the development of self-sufficient employees. Theory X holds that people are generally lazy, lacking in self-control and unable to think for themselves.

The three major points of this theory are: (1) Work is not a natural activity for men. (2) Because work is not a natural activity, men must be compelled to work. (3) Although compelled to work, men would prefer not to think. Theory Y says that people are responsible and mature, if so treated. The manager who is willing to surrender traditional authority as fast as possible while meeting both management needs and employee desires will achieve a motivated and productive organization.

The four characteristics of Theory Y are: (1) Work is neither attractive nor unattractive to men and, therefore, men can learn either to like or to dislike work. (2) All results of work and achievements of men must be measured, both on a short term and long term basis. (3) People are capable of setting objectives and selecting goals for themselves and are self-motivated in the pursuit of those goals. (4) People need fulfillment and,

therefore, seek responsibility and the fulfillment it affords. Finally, the McGregor analysis finds that financial rewards develop only skin-deep loyalties and exertions. This point parallels the motivation-maintenance theories, mentioned earlier, as to the effect of money on employees. The food service operator who expects productivity increases solely as a result of salary increases is going to be disappointed.

III-2-2. Maintenance (Hygiene) Needs in Food Service Management

Hygiene factors involve the need to avoid pain. These factors are not related directly to the work itself but rather to job context factors (pay, working conditions, supervision, and security). These factors are associated so frequently with dissatisfying experiences that Herzberg claims they are unlikely to provide satisfaction. When hygiene factors are met, people avoid the dissatisfaction they would have experienced it the needs were not met. Meeting these needs, however, do not contribute to experiencing satisfaction. Furthermore, since these needs are not capable of providing satisfaction, Herzberg states that they are not capable of motivating employees.

III-2-3. Implications

The above studies may shock many food service operators, especially those who have assumed that the employee will be motivated to increase productivity by means per se of company policy and administration, tighter supervision, higher salary, better interpersonal relations or better working conditions. According to Herzberg's findings, these assumptions are quite wrong. Actually, he found the factors listed in the above paragraph to be potential dissatisfiers and not satisfiers or motivators. The potential dissatisfiers are all work factors which must be acceptable before management can attempt to motivate the employee. If the food service manager wanted to have an unhappy work force, he/she could assure it by being arbitrary in decision making, unclear about policy, authoritarian in supervising; by paying a wage upon which the employee could not decently support his/her family, encouraging jealousies among the staff and providing

working conditions that are uncomfortable. Doing these things, he or she could be certain that productivity would be low.

On the other hand, the food service operator who wishes to motivate his or her staff will learn from Herzberg that there are definite satisfiers which may be used to motivate. People are motivated to higher productivity via achievement, recognition, the work itself, responsibility and advancement. The employee who is given the opportunity to undertake difficult assignments, who has the freedom to use his/her imagination and ingenuity in doing the job, who has been encouraged to learn new skills and has the opportunity for promotion or to earn more money as recognition for achievement, is the employee who will be motivated to higher productivity.

With this knowledge, the food service operator can maximize the satisfiers and minimize the dissatisfiers for his/her staff. To provide a summary of Herzberg's findings, a list follows noting (1) the maintenance factors (or ways to hold employees' feelings at a constructive level), and (2) the satisfiers, i.e., motivating forces, that he has established. Human relations programs, supervisory training, recreation facilities and wage and fringe benefits do not serve as motivators because they are potential dissatisfiers. However, if the maintenance factors are satisfactory, the atmosphere will be right for the motivators.

The organizational implications of Herzberg's theory are substantial. The theory specifies that hygiene factors (e.g., pay and working conditions) have low potential for motivating employees. The only potential organizational benefit of meeting employee hygiene needs is to avoid dissatisfaction. Thus, it implies that hygiene factors should be given adequate but not excessive attention by organizations. An organization desiring to motivate employees must concentrate on motivation factors such as achievement, responsibility, recognition, and the characteristics of the work itself.

The physical environment provided for the employee must meet certain basic human requirements. The failure of management to provide such things as parking facilities, a lunchroom, clean restrooms, a low noise level and proper lighting, ventilation and temperature control in the kitchen will reduce morale and productivity. The work

layout, the type of equipment provided, the consistency of the work rules and the physical demands of the work must be at the best possible level if discontent is to be avoided. A kitchen which is hard to work in due to poor layout, poor equipment, improper temperature, lighting or poor location will detract from the potential productivity.

The failure to provide some type of clarification of the status of the employees will demoralize employees. Every employee needs to have a title, location and set of privileges of his/her own. The working relationships between job classification groups should be formalized. Such seemingly small items as different hats, pants or coats for cooks versus kitchenmen, or busboys versus dishwashers will re-enforce the security of the employees and help prevent trivial discontent due to status confusion.

Every employee needs the basic tenets of security if he/she is to be content. Beyond the normal policies of seniority rights and a grievance procedure, the employee needs to know that he/she is fairly dealt with, that management is consistent in policy enforcement and that a friendly environment is assured. Who would want to go to work in the morning knowing he faces a hostile environment? A sure-fire means of de-motivating employees is the failure to provide decent economic conditions. A wage upon which the employee can maintain a satisfactory living standard and the provision of insurance for illness, disability and pension are expected by employees. Provision of the good economic conditions for the employee is basic and, therefore, not a source for higher motivation. Another basic maintenance need is proper orientation and on-going communication about the job and the company. Providing this information does not lead to higher motivation but does help stop discontent before it starts..

Concluding Remarks

This study has reviewed and discussed the management theories to apply their practical implications to the food service management. According to the above theories, in professional food service management, productivity is affected in a positive manner by a pleasant, free and happy working environment in the long run. When the basic working conditions of a physically adequate- preferably physically pleasant- food service facility are provided, then the psychological environment will be a prime determinant in motivation vis-à-vis productivity.

It is necessary for the food service organizations to assess need levels of their employees and identify which types of organizational rewards and opportunities would be most valuable. As organizational members move up in the organizational hierarchy, their needs move up the hierarchy. Accordingly, different level of rewards and opportunities are to be set up as an individual grows within an organization. Setting the proper levels of needs and rewards of an organization is critical and can be achieved by continuous research on employees and organization as a whole.

According to Herzberg's findings, the food service operator who wishes to motivate his or her staff is required to know that people are motivated to higher productivity through achievement, recognition, the work itself, responsibility and advancement. The employee who is given the opportunity to undertake difficult assignments, who has the freedom to use his/her imagination and ingenuity in doing the job, who has been encouraged to learn new skills and has the opportunity for promotion or to earn more money as recognition for achievement is the employees who will be motivated to higher productivity. With this knowledge, the food service operator may can maximize the satisfiers and minimize the dissatisfiers for his/her staff.

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things as parking facilities, a lunchroom, clean restrooms, a low noise level and the proper lighting, ventilation and temperature control in the kitchen will reduce morale and productivity. The work layout, the type of equipment provided, the consistency of the work rules and the physical demands of the work must be at the best possible level if discontent is to be avoided. A kitchen which is hard to work due to poor layout, poor equipment, improper temperature, lighting or poor location will detract from the potential productivity.

The failure to provide some type of clarification of the status of the employees will demoralize him. Every employee needs to have a title, location and set of privileges of his own. The working relationships between job classification groups should be formalized. Every employee also needs the basic tenets of security if he is to be content. Beyond the normal policies of seniority rights and a grievance procedure, the employee needs to know that he is fairly dealt with, that management is consistent in policy enforcement and that a friendly environment is assured. Provision of the good economic conditions for the employee is basic and, therefore, not a source for higher motivation. Another basic maintenance need is proper orientation and on-going communication about the job and the company.

Business managers in general, and restaurant managers in particular, are going to have to make some major adjustments to the fast changing new work environments. Few managers may be careful to admit they are unable to pace with the change. But the forces affecting the business environment are becoming so complex and changing with such speed, that it is increasingly difficult to monitor or predict the impact they will have on food service industry. One very important fact managers are to know is that people are in the middle of the changes. They cannot get their organizational goals unless they can monitor and control their people in terms of differences in perception, beliefs, values, and general ways of thinking at life and the world.