

Critical Value in Expanding the Span of Control in an Educational Institution as Organization**Author Details: Adaku Ngozi Achilike**

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Abstract

This article examined the values derivable from expanding the span of control in the management of an organization. In his contribution, Henry Fayol did not lose sight of the importance (values) attached to this and suggested that for a manager to be effective and efficient in controlling the subordinates working with/under him or her, span of control should be expanded and restricted to what is mentally possible for the manager. The study made a comparison on the relationship between span of control and managerial efficiency in a work place. Interestingly, empirical studies using mathematical models were extensively discussed including factors determining the span of control of a manager. The uses of the span of control were also not left out. Above all, implications of the span of control for managers were revealed while segregated narrow span of control was advocated for educational institutions for better service delivery to the society.

Keywords: Control, Management, Motivation, Segregated, Interaction, Management by Objective, Span of control**INTRODUCTION**

Organizations irrespective of their type cannot exist in a vacuum. They are made up of people and these people exist as management and subordinates working together to fulfill both organizational and individual goals (en.wikipedia.org/wiki/span-of-control). To achieve the mission and goals of the organization, hierarchies and structures are put in place in order for managers to exercise authority and control over subordinates in their duties and tasks or in their area of administrative jurisdiction. Interestingly, the level of managerial authority exercised as well as the effectiveness and efficiency achieved is a direct result of the manager's ability to command, direct, control and delegate responsibilities to a number of subordinates under him or her. The number of subordinates a manager can conveniently guide to perform at optimum best is referred to as SPAN OF MANAGEMENT CONTROL (www.businessdictionary.com/definition..).

Some early management scholars and theorist have tried to identify the IDEAL SPAN OF CONTROL for managerial effectiveness and efficiency. These erudite theorists and scholars recognized that not every manager is able to efficiently command same number of subordinates but they felt there were maximum limits in an organization's quest for achievement of their goals. Lyndall Urwiche as cited by Koontz et al., (1974) recognized that the span of control for level to level superiors could differ from that which is controlled by a top executive.

Longe (2008:214) cited Henry Fayol as saying that the span of control should be limited to between three and six. He added that to ensure effective control, the number of subordinates under a manager's control should be restricted to what is mentally possible for him to handle. What is mentally possible here differs from person to person, hence it is relative. Perhaps a test to run the IQ of the manager(s) would be more appropriate before allocation of subordinates for supervision.

The span of control is an important consideration at the top executive level. A good number of enterprises are started by an individual(s) whose enthusiasm is the major

reason for the company's early success. As these companies grow, their executives delegate responsibilities to subordinates whose enthusiasm could not match their own and thus limit their span of control. They realize that if done otherwise their duties outstrip both their abilities and available time. The challenge becomes how to train in order to inject same level of enthusiasm into those delegated to supervise subordinates.

The span of control varies with the person and managerial positions. Some managers can supervise many subordinates and some positions allow a fairly wide span of management while others do not. This goes to show that management at any level or organization calls for an appropriate number of persons who should report directly to a manager in order to create efficiency on the job.

THE CONCEPT OF SPAN OF CONTROL

Organizational theorizing has become overtly complex with computational and mathematical permutations being introduced to explain some management and administrative theories. Examples are cited in Qian, 1994; Carley and Pricutla, 1994; Huberman and Hogg, 1995; among others. This is because some of these theories need entirely reasoning pattern, as in Woodward, 1980; Meier and Bohte, 2000. Straightforward attempts to build simple quantitative models such as those proposed by Graicunas in the early 1900s were prematurely abandoned as not meeting theoretical standard (Graicunas, 1937). One of such organizational theory requires commutative and qualitative strategies in the span of control.

The span of control (SOC) is a simple managerial construct which identifies and regulates the amount of direct supervision (i.e. in terms of interaction or contact) that exists between a superior (i.e. a manager or supervisor) and his direct subordinates within an organization. The span of control principle postulates that limiting the number of subordinates i.e. (reporting to a single manager or supervisor) between four and six improves organizational performance (Koontz and O'Donnell, 1969; Williamson, 1975; Perrow, 1986). These are, however, old postulations that may not have taken the relevance of technology into account.

Although no agreement has been reached about limiting the span of control and what is the optimal span, there is a general agreement amongst most organizational theorists that the optimal span of control depends on the nature of organization, scope of work, tasks processed, abilities, style of the superior and the amount of interaction or co-ordination that the nature of work in the organization requires (Bell, 1967; Mackenzie, 1974; Klein, 2001; Nickols, 2003). It is a wide known fact that Management by Objective (MBO) is seen to be helpful in ascertaining to what extent a supervisor can cope with given number of subordinates. MBO is a situation where managers and employees determine steps for goals achievement and is proactive rather than reactive in planning (Study.com, 2015).

Few simple qualitative models were proposed in the first half of twentieth century (Hamilton, 1921; Graicunas, 1937; Gulick, 1937; Urwick 1956), but these approaches were prematurely abandoned due to a strong critique by Herbert Simon, who called into question many principles of scientific management (Simon, 1946). George and Jones, (1996); in their study of top Chief Executive Officers of corporations in the United States of America (USA) identified that as an organization grows and the problem of integrating activities within and between functions and divisions increase, the organization's nature of typically increasing the number of subordinates who report to a manager narrows. They observed that an organization with six major functions under a Chief Executive Officer (CEO) means that the CEO's span of control at the top is six. Can we then be able to determine, through this policy, the span of control of an HOD, Dean, Director, Rector or Vice Chancellor in Institutions of learning?

Stoner et al., (1995), in their study of departmentalization and job specialization process of VOLVO Sweden identified that span of management or control is the number of subordinates reporting directly to a given manager. It is frequently cited that the optimal span of control is a number around five, but there has been no conclusive evidence that this is a universal case. For instance, data on the span of control in small companies as collected and analyzed by Mackenzie, (1974); showed a medium of 5.7 (with 95% confidence).

Many other studies have also been conducted to explore the differences in spans. Blau, (1968); reported on a study of 250 government agencies confirming that organizations requiring higher qualifications from their personnel are more decentralized, exhibit narrow spans of more decentralized nature, exhibit narrow spans of control and have large number of managerial levels in their hierarchy. This is the case of educational institutions. Ouchi and Dowling, (1974); surveyed 78 retail department stores and reported that they found typical supervisors managing 8.7 subordinates on average and spent around 50% of their time on supervision.

Woodward, (1980) conducted a study of over 200 British industrial firms and found that variations in spans of control were present across the different types of firms. However, within each category, successful firms used similar spans. Bohte (2000, 2003); collected data on 678 Texas school districts and found that the optimal span of control is dependent on three factors namely; diversity of functions performed by subordinates, tenure of subordinates and the size of the organization.

Study.com (2003-2015) opined that Span of Control could be narrow or wide depending on the type of organization and goals/objectives. Whether narrow (managers overseeing few subordinates and which showcases tall organization structure/chart but which is usually expensive) or wide span (where single supervisor oversees large number of subordinates and showcases flat organization structure but is cheaper to maintain), the need for adequate control cannot be over-emphasized. Average is the critical span which impacts positively on time, effort, finance, decision-making and should have a coordinating unit for Information and Communication Technology (ICT) controlled ideas.

Educational institutions operate narrow span of control and this increases with larger student-carrying-capacity where resources are there. It is motivational and segregated narrow span is recommended. Although 15-20 to a supervisor appears ideal, where HODs control not only staffers under them but also students numbering 200-1000 makes it too large and demands a deputy HOD for adequate delegation. Himanshu Juneja (accessed 26 May, 2015), saw the factors of nature, job requirement, managers' skills/competencies, employees' skills/abilities, nature of interaction adopted between HOD and others. Reports manager's can effectively handle would better determine appropriate span of control.

MATHEMATICAL MODELS

As discussed above, numerous empirical investigations are treatments for the question of limited or optimal span of control which have been reported in the studies analyzed. However, these studies were generally inconclusive and too imprecise to permit testable implications to be derived.

Consequently, a burst of detailed mathematical optimization and computational models have been developed to remedy this situation. In this section we will focus our review on simple models of the organization that are somewhat generic and require the least amount of computational effort. However, they provide meaningful managerial insights to help guide organizational thinking and design. We will refrain from discussing other more detailed models of the organization that tend to be tailored for specific organizational settings, requiring numerous organizational assumptions, and variables for their development and analysis. Examples are cited with Huberman and Hogg, (1995), Jin and Levitt, (1996); Huberman and Coch, (1996); Nasarallah and Levitt, (2001).

One of the earliest simple mathematical models is the one introduced by Gracicunas, (1937); Urwick, (1956), though rather too old in which they argued that a superior should manage not only direct interaction with subordinates, but also interactions resulting from different groupings of subordinates. That is, if the span of control is three, then a superior will manage three direct interactions in addition to seven group interactions. This leads to the fact that the number of relationship or interactions that a superior must manage increases dramatically and exponentially after four subordinates. Thus, a span of control around four subordinate is about right according to Graicunas (ibid).

Mackenzie (1974), focused on the determinants of and the calculation for the maximum span of control instead of an optimal one. Mackenzie’s model assumed that any person in a hierarchical organization spends time either working on his or her own task or interacting with others. Furthermore, these interactions can be either with supervisors (at a higher level of the hierarchy), colleagues (at the same level of hierarchy), or subordinates (at a lower level of hierarchy). Thus, considering the time allotted for a person to finish a specific task, an upper bound exists for the amount of interaction allowed without jeopardizing the completion of the assigned task.

Similarly, Lawler (1979) computed the optimal span of control for each level in the hierarchy based on the relative wage rate between supervisors and subordinates. They found that the span of control increases as one goes from the top of the hierarchy towards the bottom and constant spans of control are optimal only when wage differences are ignored.

Beekmann, (1988) wrote an elaborate study of organizational analysis, providing many mathematical formulations for determining the optimal size of the organization's optimal spans of control and quantifying the loss of control in hierarchical organizations. Assuming constant span of control throughout the hierarchy, Beekmann’s main conclusion was that the optimal span of control is independent of the size of the organization.

The focus in this section was on models of hierarchical organizations due to our interest in investigating the span of control construct. However, other non-hierarchical organizational models exist and bear direct relationship to our proposed model, in terms of striking simple tradeoffs. One such model is reviewed next.

In an earlier work, Goldberg, (2004) investigated the optimal team size in a non-hierarchical organization based on trading off (a) the time required for deciding what to do and (b) the time required for doing the work. For the base model, we assumed linear increase in decision making time with team size and equal share of work among team members. Thus, for a team of size n, the total deciding – doing time becomes:

$$T(n) = dn + T_2 \dots\dots\dots(1)$$

Where:

- T(n) = the desired span of control
- dn = the doing time
- T₂ = the deciding time
- n = the team size

A second and simple mathematical equation was also put forward by Davidson (2003) in the journal of Business Strategy as:

$$SOC = \frac{\text{Remaining time for a given task}}{\text{Communication time per subordinate}}$$

She argues that this formula provides an ideal ratio of managers to staff and this also allow the managers to perform their own calculation of what number of persons should be under them.

DETERMINANTS OF THE SPAN OF CONTROL

Various factors determine the span of control for managers at given points in time. These are:

- (a) Diversifications of functions
- (b) Time
- (c) The organization hierarchy in place
- (d) Space

When records are based on goal achievement, all hands will be on deck to tackle contingencies and road blocks. Measurable goals should determine span of control so that adjustments on deviations could be easily detected and taken care of. Efficiency and improved moral amongst both supervisors and subordinates would ensure that little time is spent on setting goals for simplistic job tasks, while performance appraisal should target administrative and development purposes for goal-setting. With a suggestion or feedback drop-box controlled by management, feedback would be processed/utilized for long-term decision-making /goal-setting aimed at developmental plan.

Employee performance appraisal is the assessment, within a period of time under review, of the activities of staffers in order to determine effectiveness and productivity as to whether or not to uplift. Control measures include; performance appraisal, disciplinary policies, observation and training. Tools of appraisal or evaluation of performance include rating scale, assigning ratings/scores for execution of various tasks showing performance and behaviour that are good for task-oriented jobs. It could be narrative or combination of inside and outside assessment. Whatever type is applied, result or outcome is utilized for adequate span of control.

USES OF THE SPAN OF CONTROL

A well arranged and optimal span of control is useful for the following managerial activities:

- (a) Disciplines (demote, suspend, termination)
- (b) Reward (grant, merit increase, promotion, bonuses)

- (c) Assign/reason duties
- (d) Approve leave requests
- (e) Resolve/settle employee relations problems
- (f) Formally evaluate employee performance
- (g) Effective communication and motivation
- (h) Accurate benchmarking and target setting

IMPLICATION OF THE SPAN OF CONTROL FOR MANAGERS

From the discussions above, the following management and educational

Implications could be adduced, in aid of increased organizational performance;

- (1) The span of control as a management principle provides guidelines for defining managers' and supervisors' responsibility for strategic operations and planning.
- (2) It helps manager's substantial responsibility in human resources management, Information management and the preparation and Administration of budgets.
- (3) Exercises supervisory authority that is not merely routine or clerical in nature and requires the consistent use of independent judgment.
- (4) The span of management control helps to solve managerial problems thus preparing suitable plan of action for various tasks and jobs of subordinates under a given superior.

THE PLACE OF SPAN OF CONTROL IN THE NIGERIAN SETTING

It is not out of place to assume that the determinants of span of control in a developed country would differ from that of a developing country. The advent of sporadic changes in technology would also be a determining factor, if one is to determine span of control realistically. Span of control in management has implications for work flow, communication and opportunities

Nigeria as a developing country with sheer inertia in accepting changes and challenges, naturally have a haphazard way of determining span of control, bearing in mind that profit making is the major aim of organizations therein. In this vain therefore, output and cost of output for purposes of employment would determine if the span of control strategy would be applied at all. The unemployment rate as well as demands for higher pay tends to limit organizations in their attempt to use the span of control strategy, if at all. For institutions of learning, and given the above models and theories, therefore, narrow segmented span of control would more appropriate. Of course these would differ according to whether the institution is Federal, State or Private.

SUMMARY AND CONCLUSION

Judging from the foregoing discussions, span of control is an important management tool and should be expanded in order to derive the maximum value needed in an organization. Again, span of control should be restricted to what is mentally possible for an average manager. Average

should be ideal but care should be taken to ensure appropriate training, performance appraisals, observations and proper planning so that mistakes are not made and the organization grounded

It is evident from the Nigerian setting that only Government organizations, oil companies as well as very big organizations or conglomerates can afford to utilize the span of control strategy and still break even. There will be need for governments of nations to assist smaller organizations if they must utilize the appropriate span of control measures in their systems operations. Of course, the segregated narrow span of control, allowing it to be determined by the size, goal target, caliber of managers selected for supervision of different units, among others.

REFERENCES

- George, W. & Jones, J. (1996). Understanding and Managing Organizational Behavior, 2nd Edition. New York: Addison-Wesley publishing Company.
- Keren, M. & Levhar, D. (1979). The Optimal Span of Control in a Pure Hierarchy. Management Science, 11; 1162-1172.
- Ouchi, W. & Dowling, J (1974). Defining the Span of Control. Administrative Science Quarterly, 12(3).
- Stoner et al. (1995). Management. India: Pearson Educational Pte.
- Urwick, L. (1956). The Manager's Span of Control. Harvard Business Review, 34, 39-47.
- Study.com (2003-2015). Accessed 25th May, 2015.
- Woodward, J. (1980). Industrial Organization: Theory and Practice, 2nd Edition. New York: Oxford University Press.
- Wikipedia (2014). 'Span of Control' as sourced from the Internet on the 8th day of July, 2014.
- Span of Control definition sourced from www.businessdictionary.com on the 8th day of July, 2014.
- www.tutor2unet/business (2012). *Span of Control*. Retrieved on September, 2012.
- www.education-portal.com/.../span-of-control