

A History of the Span of Management

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This historical essay provides new insight into the span of management concept through an integration of the diverse literature on the topic. Early and ancient approaches are expanded upon; an encyclopedic bibliography is provided; and current conceptual models are identified.

Long a controversial subject, the span of management is perhaps the most discussed single concept in classical, neo-classical, or modern management theory. Throughout its evolution it has been referred to by various titles such as span of management, span of control, span of supervision, and span of authority.

In specifying conditions for organizational effectiveness, the span of management has gen-

erally been regarded as a critical factor. It is apparent that certain variables affect the span and hence organizational effectiveness, but a clear expression of the concept has been slow to emerge.

Because early writers did not pose the problem in this way, their ideas are frequently hard to follow and integrate. Development of a clear understanding of the relationships involved has been complicated by the two stage evolution of the concept. The first stage was marked by suggested numerical limitations and recommendations; the second by general statements of varying applicability. The purpose of this article is to review these stages of growth and to evaluate the current status of the span of management concept for academicians and practitioners.

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Antiquity

The span of management is an ancient concept. Near the end of the second century B.C., Caius Marius reorganized the famous Roman Legions so that twenty-eight to thirty Legions reported to him with ten Cohorts per Legion and three to six Centuries per Cohort (41, p. 145ff). Accounts of ancient Egypt suggest concepts of organization and organizing (26). The Biblical account of the reorganization of the tribes of Israel also reflects this idea of organization (102).

Trade in Babylonia (40); the civilizations of Greece, Rome, and Phoenicia (214); the famous Chinese civil service (45, 99); and the hierarchies of ancient India (119) certainly could not have operated without some notion of organization. All of these early organizations had span of management problems to be solved, but available records suggest that none represents an explicit recognition of the span of management concept.

Explicit recognition of the concept, as it is thought of today, did not occur until the early 1800s. A gap in the literature appears to exist from ancient times until that period. Perhaps students of management thought have neglected these years. Organizational problems certainly existed throughout the medieval period as feudalism gave way to mercantilism and mercantilism led to the expansion of industrial capital as a prelude to the Industrial Revolution. Studies of church, military, government, and factory organizations during this time could shed considerable light on the evolution of organizational concepts from antiquity to the industrial era, but lie beyond the scope of this article.

The Beginnings

The beginnings of the modern approach to the span of management concept occurred with the Industrial Revolution. Those beginnings involved normative statements indicating a numerical guideline or limit with little by way of qual-

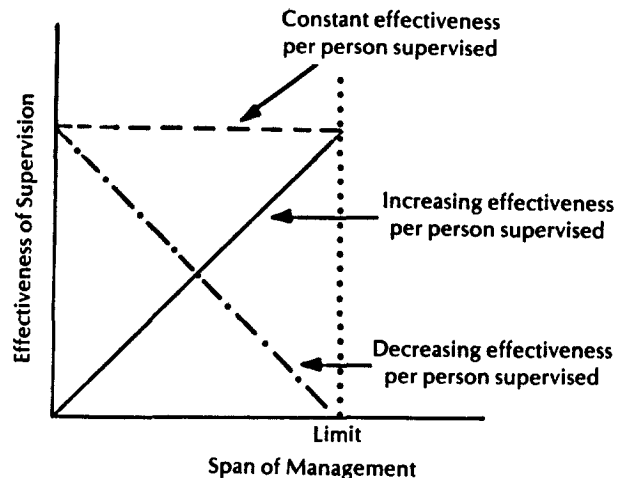


FIGURE 1. The "Limited Span" Concept.

ification. The emphasis in the scientific management movement on mathematics and quantitative approaches undoubtedly accounts for the nature of many of these statements. The views were empirical (based on experience), rather than scientific (based on logical theory). As a result it is unclear whether supervisory effectiveness per person supervised was thought to remain constant, increase, or decrease as the span approached its limit (see Figure 1).

Table 1 provides a chronological overview of the span of management concept beginning with the early stages of the Industrial Revolution; this part of the article expands upon the first portion of that chronology.

European military commanders are generally credited with being the first to stress specifically the importance of the span concept. Napoleon set the maximum desirable span at five (4, p. 37), while Clausewitz spoke of ten (240, pp. 230-236). Other early military writers also discussed the concept. Captain Arthur L. Wagner (241) made note of it as did British General Ian S. M. Hamilton, who advocated the use of spans of size three to six (91, p. 230).

Fayol, French manager and later consultant, was in partial agreement with these ideas. He

TABLE 1. A Chronological Collection of Statements On The Span Of Management

Approximate Date	Author	Statement	Approximate Date	Author	Statement
1765 - 1825	Whitney	"I find it vain to think of employing a great number of hands . . . unless I can actually be present in many places at the same time."	1933	Graicunas	" . . . in the vast majority of cases the 'span of attention' is limited to six digits "
1804 - 1815	Napoleon I	"No man can command more than five distinct bodies in the same theatre of war."	1933 - 1937	Urwick	"No superior can supervise directly the work of more than five or, at the most, six subordinates whose work interlocks."
1830	Clausewitz	"Plainly . . . one person can only exercise direct command over a limited number. If there are more than ten parts, a difficulty arises in transmitting orders with the necessary rapidity and exactitude "	1937	Gulick	"Just as the hand of man can span only a limited number of notes on the piano, so the mind and will of man can span but a limited number of managerial contacts . . ."
1895	Wagner	"There is a limit, quickly reached, to the size of the command that can be controlled directly by one man."	1940	Alford	"The number of subordinates reporting to a superior should preferably be limited to no more than five or six at the executive level."
1909	Mason	"In distributing . . . duties among functional foremen . . . some will be able to superintend possibly fifty or sixty men, while others must limit their work to directing the operations of fifteen or twenty."	1944	Hopf	The span of management "is a flexible rather than a rigid concept . . ."
1916	Fayol	"Whatever his level of authority, one head only has direct command over a small number of subordinates, less than six normally. Only the . . . foreman or his equivalent . . . is in direct command of twenty or thirty men, when the work is simple."	1946	Brech	" . . . the span of control of the superior should be limited to five or six subordinates if their activities interlock."
1921	Hamilton	"The average human brain finds its effective scope in handling from three to six other brains."	1949	Balderston, Karabasz and Brecht	"At the upper levels of authority . . . the ratio should not exceed four to one, or five to one at the lower levels of supervision . . . the ratio may be much larger, say ten to one, or even fifty to one in the case of the supervision of common laborers."
1921	Moreland	"It is a recognized principle that no individual authority should control more than a limited number of agencies . . . usually less than ten."	1941 - 1954	R. C. Davis	(a) "The range of the optimum unit of operative supervision extends probably from a maximum of 10 operatives to a maximum of 30 for most concerns." (b) "The unit of executive supervision appears . . . to range from 3 to 8 or 9 subordinates."
1922	Kendall	"Four or five" is as many people as should report to a chief executive.	1951	Newman	"Empirical studies suggest that executives in higher echelons should have a span of three to seven operating subordinates, whereas the optimum range for first-line supervisors of routine activities is usually from fifteen to twenty employees."
1925	E. D. Jones	"The ratios between superior and subordinate may range from 1.5 to 1.25."	1955	Koontz and O'Donnell	"There is a limit to the number of persons an individual can effectively manage, even though that limit is not finite for every case but will vary with the complexity of the relationship supervised and the ability of managers and subordinates "
1926	White	"It is said an administrative superior cannot effectively supervise the work of more than seven divisions or units."	1970	Haimann and Scott	"There is . . . no definite, fixed answer to the ideal number of subordinates a manager can effectively supervise."
1931	Dennison	"If a man is really to lead men . . . there will be some maximum number of them to whom he can give his fullest service . . . for anything more exacting than the direction of simple or uniform mechanical work it seldom runs beyond six to twelve people."			
1933	Hart	"When one divides, it should, if possible, be into not less than three nor more than seven parts."			
1933	Florence	"There is a limit to the number of subordinates that can be directly commanded by one man."			

suggested spans of management of fifteen for the lower levels of an organization and four for its top levels (70, p. 55; 133). In a subsequent statement, he suggested a span at the top of an organization of less than six and a span of twenty to thirty at the lowest level (85, p. 102). A few years before Fayol, Mason had been aware of numerous variables affecting an appropriate span of management. Directing his remarks at functional foremanship and complexity of operations, he commented that lower spans might vary from fifteen to sixty (138). A number of years

after Fayol and Mason, Moreland (also showing a military influence) suggested a limit to the span because of the "urgency of services to be rendered" (153, p. 418).

Industrialist Henry P. Kendall addressed the subject of span of management in 1922. Speaking before the Boston Chapter of the Taylor Society, he suggested that "four or five is enough" (121, p. 40). In 1925, Jones, acknowledging the remarks of Kendall and those in a subsequent article by Coonley (42, 43), commented upon the span of management. Reminiscent of earlier comments

made by Mason and Fayol, he suggested a span of five at the top with spans of up to twenty-five at lower levels (114, p. 150).

In the first public administration textbook (66, 67), White identified a "principle of economy of supervision". He suggested seven divisions or units (245, p. 68). Dennison associated span of management with the concept of leadership. In doing so, he warned against both unusually large and small spans (57, pp. 137-138). Dutton also commented upon the relationship between the span of management and the amount of complexity of work to be performed (64, pp. 153-154).

In 1933, both Florence and Hart dealt with the span of management. Florence identified three managerial principles "proper to the hierarchical system". His third principle concerned limit of the number of subordinates that can be directly commanded by one person without specifying a number (75). Hart specifically recommended limits of three to seven (92).

Probably no other name is as closely associated with the span of management concept as that of Graicunas, whose famous essay developed the first theoretical basis for these empirical views. He related span of management to span of attention and noted that "the span of attention is limited to six digits" (81, 159). Urwick used this reasoning as the basis of his advocacy of the concept (234). He presented it in the form of the following principle:

No superior can supervise directly the work of more than five or, at the most, six subordinates whose work interlocks (220; see also 218, 219, 221, 223, 224, 225, 229, 230).

Urwick did not mean that this principle should be interpreted as "a rigid rule to be applied woodenly in all situations" (226, p. 41). He emphatically stressed the last part of his statement which reads: ". . . whose work interlocks". This qualification is often misunderstood or overlooked.

The sharp opposition aroused by Urwick's statement of the span of control principle is one

of the more interesting episodes in the annals of the field of management. Called upon numerous times to defend his position, he has been designated the "doyen" of classical theorists (206). Much of that opposition came from those of the "human relations" view who were arguing for wider spans and flatter organizations as ways of increasing participative management and the self-control of subordinate managers and workers.

Urwick's statement of the principle of span of control was attacked in 1946 by Simon (186, 187, 189). Urwick first replied at the 1948 London Lectures on Higher Management (222). He particularly disapproved of Simon's rewording of each of the discussed concepts as laws rather than as principles.

Years later, Urwick again found it necessary to defend his viewpoint. Suojanen denied the continued validity of the principle due to developments in modern social science which negated its further usefulness (207, 208). In response, Suojanen received an exceptionally sharp retort from Urwick. Urwick charged that Suojanen not only distorted materials used in his presentation but attributed a non-existent maturity to the development of the social sciences (227, 228, 231, 232, 233). At this point, Simon, in answer to Urwick's charge against Suojanen and partially in defense of himself, entered into the discussion siding with Suojanen (188). To date, this question has yet to be settled (127, 142, 143, 144, 162, 202, 203).

Other early contributors included Gulick, Barnard, and Alford (3, 10, 11, 85). Gulick identified numerous variables affecting the appropriate determination of a span of management, e.g., diversification of task, quality of work performed and factors of geographical location. Barnard, referring his readers to the work of Graicunas, discussed limitations upon group size. He also directed himself to the question of the complexity of interpersonal relationships. Finally, Alford, in an early "principles" text, defined span of control as "the number of subordinates who can

be successfully directed by a superior" (3, p. 115).

The Nineteen-Forties

In the 1940s, interest continued in the development of the span of management concept (44, 136, 156). Petersen and Plowman noted that "span of control refers to the maximum number of subordinates which may be placed under the jurisdiction of one executive immediately superior to them" (164, p. 198). Breaking with tradition, Hopf emphasized that the span of management is a flexible rather than a rigid concept (103).

Davis developed a mathematical projection of different spans associated with various theoretical organization structures (54, p. 1). It was subsequently followed by an empirical study designed to test his "law of functional growth" (52). A secondary outgrowth of this study was data that generally upheld traditional beliefs concerning the span of management (7, 58).

The Hoover Commission, established to analyze the organizational structure of the United States Executive Branch, noted that "there are 65 departments, administration, agencies, boards, and commissions engaged in executive work all of which . . . reported directly to the President — if they report to anyone" (39, 172; see also 59). In its recommendations, the Commission favored a consolidation and a large reduction in the number of units reporting to the President.

The writings of Balderston, Karabasz, Brecht and Riddle, and those of Brech are also characteristic of this period. Recognizing the variability of an appropriate span, Balderston, et al. noted that top spans should not exceed four or five, but lower spans could be as high as fifty (8, pp. 452-453). Brech stated the span concept in the form of a principle. The eighth of his ten organizational principles, it stressed the idea of "inter-relatedness" and set the ideal span as five or six (28, pp. 58-59; 27, 29).

One of the more interesting studies relating organization structure to enterprise efficiency was conducted by Sears, Roebuck and Company and reported by James C. Worthy, one of its vice presidents. Based upon the results of his final research, he stated that a number of highly successful organizations deliberately gave key executives so many subordinates that it became impossible for those executives to exercise too close supervision (252, 253, 254).

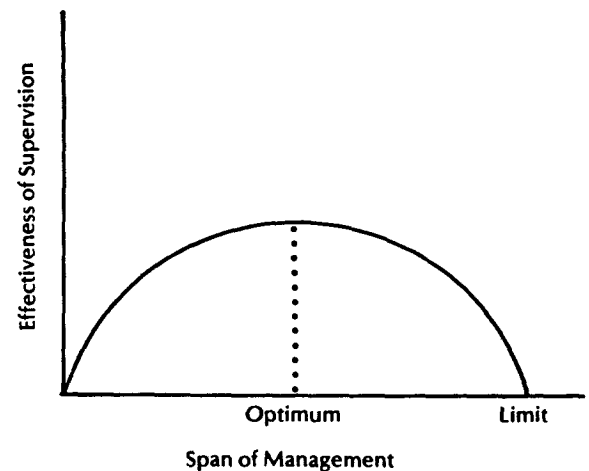


FIGURE 2. The "Optimum Span" Concept.

The Nineteen-Fifties On

The 1950s was a period of continued controversy concerning the span of management. Numerous systematic empirical studies were conducted to determine its validity, and the concept of an "optimum" span rather than a "limited" span emerged (see Figure 2). This allowed for spans being either "too large" or "too small" in existing organizations (65, 76, 128, 129, 165, 177, 179, 180, 181, 183, 198, 210, 217, 242).

Both Davis and Newman commented upon span of management. Having earlier acknowledged a variation in optimum spans at different levels of supervision, Davis offered guidelines to be followed (53). He thought that spans at the

top should range from three to eight and spans at the bottom from ten to thirty (55). Newman also provided guidelines to aid in determining the optimum span at different organization levels. With similar reasoning but advocating slightly different figures, Newman suggested three to seven for the top and fifteen to twenty for the bottom (157, 158).

Following Davis and Newman, Drucker modified the concept and introduced what he referred to as the "span of managerial responsibility" (61). Drucker considered this "span" to be much wider than the regular span of management and to have no fixed size. In his more recent work, Drucker appears to argue in favor of large spans when he states that organizations should have the fewest possible number of levels (62).

During this same time period, the General Electric Company, in an excellent series on management, was critical of small (four to six) spans. It suggested that spans might go as high as fifty or more and that the use of "unweighted arithmetical formula" or any "arbitrary mathematical approach" was unwarranted (173).

The first of a series of descriptive statistical studies to deal specifically with span of management was reported by Dale (48). Of 141 companies surveyed (large and small), the number of subordinates reporting to the chief executives varied from one to twenty-four. The median for large companies was between eight and nine; for medium sized companies, it was between six and seven (25, 47, 49, 51).

Since the original Dale study, numerous other attempts have been made to determine the degree to which companies actually apply the span concept. Healey polled the chief executives of 620 Ohio manufacturing plants which employed one hundred or more employees. He found that 70 percent or more of top spans were in the three to seven or eight range (94, 95). Another study reported similar findings; "In each industry size group, the median number . . . of reporting subordinates was close to the recommended span of control . . ." (122).

An extensive investigation was directed by Woodward who studied the span at the highest and lowest levels of ninety-seven firms. She found that, depending upon the type of technology involved, the median number of persons responsible to the top executives of firms surveyed varied from four to ten, while the median number of employees responsible to first-line supervisors varied from fifteen to twenty-three (249, 250). These findings are partially similar to those reported by Baker and Davis four years earlier (7).

Haire also provided data concerning span of management. He found that the average range in the number of employees per first-line supervisor was one to thirteen (90). A National Industrial Conference Board investigation, directed by Janger, found that the median span for chief executives was five with a range of one to twenty-four. At the lowest level of the management hierarchy, the average span was found to be twenty with a range of four to thirty-five (111).

Entwisle and Walton, in their study of twenty colleges and fourteen small companies, found a median span for college presidents of five to seven and for company presidents of four to seven (69, 198). Moore analyzed the organization charts of sixty-two companies presented in a study by Steiglitz (199) and concluded that most presidents of the companies surveyed had from eight to eleven immediate subordinates (151, 198, 199, 200).

In a survey of thirty-nine chief executives, White found results remarkably similar to those of Dale's 1951 study. Their median span of management was found to be eight, with a typical range from three to twelve, (244; see also 73, 74). Another study on the span of management by Holden, et al. found that the span of management for fifteen industrial corporations ranged from one to fourteen with an average and median of ten (101).

Finally, more recent studies of the span of management were conducted by Viola and Najjar (154, 238). Viola found that of 221 managers in the life insurance industry, 71 percent had from

one to nine subordinates reporting to them, with a mean of 6.75. In contrast, 60 per cent of this group's immediate superiors were reported as having spans of from one to nineteen subordinates.

"Principles" Texts

Research on descriptive statistics dealing with the span of management and the market appearance of the first "principles of management" textbooks were almost simultaneous. Arguing that numerous variables were involved in determining an appropriate span, Terry noted the paradoxical confusion regarding suggested numbers for spans of control. By the fifth edition of his textbook, he had dropped the phrase "span of control" in favor of the phrase "span of authority" (211).

Koontz and O'Donnell devoted an entire chapter to the span of management concept, coining the phrase "span of management" in preference to the more traditional phrase "span of control". In a manner similar to Terry's, they identified numerous factors purported to affect the determination of an optimum span of management (126).

An orientation similar to that of his predecessors was taken by McFarland (131). Commenting that "a span of control is the number of subordinate executives who report directly to a higher executive", he presented the previously discussed work of Barnard and White.

Noting and favoring Koontz and O'Donnell's choice of the term span of management over that of span of control, Albers (2) used it throughout his works. He defined span of management as simply "the number of subordinates under an executive", and asked the questions: "How many subordinates can be effectively managed by an executive? Is there an ideal number or a minimax solution to the problem?" While not providing a firm answer to either question, he did review many of the studies performed in this area and also identified "endogenous" and "exogenous" factors to be considered in the matter.

Haimann, and later Haimann and Scott, defined "span of management" as "the number of subordinates who can be effectively supervised and managed . . ." (89). Haimann stressed that the span of management is a function of many factors. After reviewing the work of Graicunas, empirical studies in the area, and criticisms aimed at span of management, he concluded: "There is . . . no definite, fixed answer to the ideal number of subordinates a manager can effectively supervise".

Longenecker, in a discussion reminiscent of Davis, noted:

It is possible to distinguish between the span of control of executives who have subordinate managers reporting to them and the span of control of supervisors who direct operative employees (134).

Limiting his discussion to the former, Longenecker simply defined span of control as the number of immediate subordinates reporting to a given manager. Making limited use of his previous research, Dale (50) discussed span as a "classical" principle. Noting the contributions of Hamilton, Graicunas, and Urwick, Dale reported the "classical" interpretation of the span of control as, "No superior should have more than six immediate subordinates whose work is interrelated".

After reviewing the works of Graicunas, Urwick, and Dale, Sisk presented the span of management topic just as Koontz and O'Donnell had done before him (194). More recently, Donnelly, Gibson and Ivancevich (60) have followed the approach utilized by Sisk. Writing that "the span-of-control principle concerns the number of subordinates who directly report to a supervisor . . .", they also presented and critiqued the work of Graicunas, Urwick and Davis.

Recent texts deal with the concept of span of management differently. Albanese (1) devotes only two pages to the topic; mentions Graicunas for historical perspective; and indicates that the span depends upon the manager, the employees, and the situation. Hellriegel and Slocum (96) spend about four pages on the topic; severely

criticize Graicunas; use the N.I.C.B. and Lockheed "factors"; and briefly discuss the relation of group size to the span of management. Finally, Filley, House, and Kerr (72) spend a whole chapter discussing the concept and follow much the same approach as Sisk and Koontz and O'Donnell except that they include much more material on group size as it might be related to span. There are other views from general texts (5, 31, 112, 115, 132, 152, 163, 185, 205, 239, 246, 247).

Current Views

As indicated in this review, the span of management concept is extensively discussed in management theory. It has also been discussed extensively in the newer behavioral approaches to management (33, 56, 86, 97, 117, 118, 139, 147, 148, 174, 176, 193). Attempts at proving or disproving the validity of span of management have met with mixed results. They have been reviewed as part of this analysis only to the extent that they might provide a more common base for the understanding of the concept (36, 79, 87, 106, 107, 108, 137, 146, 168, 169, 170, 171, 182, 192, 215, 251).

Referred to by Pfiffner and Sherwood as a "hoary artifact" (167), the span concept was first forwarded as a *principle* of management by Urwick in 1938. It had been discussed much earlier, and, indeed, many of the early writings are surprisingly consistent with recent views on this topic.

The most frequently quoted early reference in this area is Graicunas' essay. It is largely misunderstood that Graicunas recognized the impossibility of laying "down hard and fast rules for organization of relationships within a factory" and that he intended his essay to be "essentially of a speculative rather than a directly practical nature" (13, 14). Nevertheless, other writers before and since have strived to standardize numerical guidelines or rules in this area.

Of unquestionably good intention, these early writers mainly called upon their past experiences to form a basis for the logic of their state-

ments. As a result, these statements predominately took the form of recommendations or normative statements. It was not until specific descriptive statistics in this area were available that dissenting theoretical views began to gain favor over the empirical, intuitive statements.

Descriptive statistics point out variations in actual practice, but they do not unquestionably disprove the earlier classical pronouncements. Confusion in this area is particularly complicated by: (a) divergent interpretations of the same data by different groups; and (b) discrepant results obtained in different surveys. What seems to have taken place is a recognition of (a) the numerous variables that make each situation distinct, and (b) the concept of an optimum span rather than merely a limit to the span.

The introduction of the first "principles of management" textbooks brought about much of this change. Their "neo-classical" authors, benefiting from the indeterminateness of the latest works in the span of management area and incorporating "small group" research (24, 34, 35, 37, 80, 109, 110, 123, 140, 150, 201, 243), began to modify the edicts of earlier authors. Instead of set numerical guidelines, statements suggesting variability became more the rule than the exception.

As this approach became generally accepted, new approaches of analyzing the span of management concept were developed (6, 15, 18, 30, 32, 46, 63, 84, 88, 100, 135, 149). Filley explored the relationship between an executive's leadership style, use of assistant-to positions and size of span of management (71). A longitudinal analysis by Simonds has revealed no changing trend in the span of management "attributable to automation, new quantitative techniques or behavioral research" (190, 191). Organizations such as Lockheed Missiles and Space Company have developed elaborate procedures to evaluate selected identifiable variables as a basis for determining the span of management in any desired situation (9, 124, 125, 216).

Recent mathematical treatments indicate an

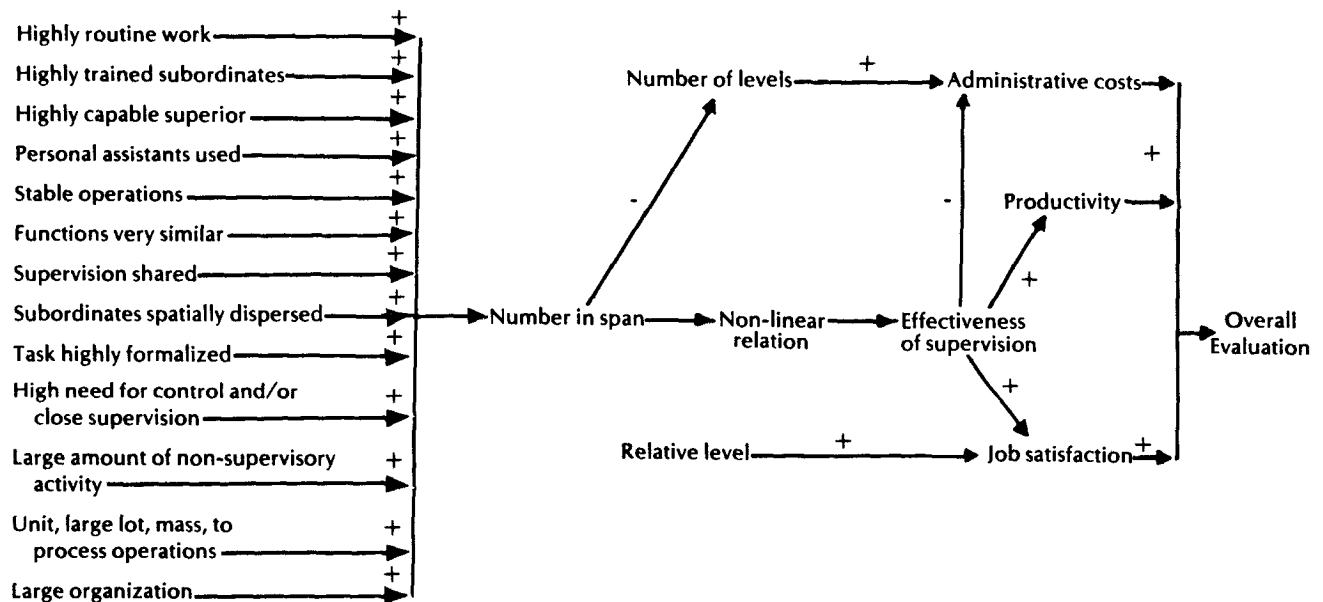


FIGURE 3. Organizational View of Span Relationships.

increasing awareness of the importance of the span of management. Blau and Scott have developed an index "to measure the shape of the hierarchical pyramid" (23; see also 19, 20, 21, 22, 218, 248). Hill has applied queuing theory to determination of the optimum span of management (98). Beckmann and Thompson have constructed numerous derivations to measure the cost of various spans of management (12, 212; see also 155). Melcher has advanced a formula to determine the average span of management within an organization (145). Emery has adapted the original Graicunas formula to allow for "fragmentation and coordination" (68). Finally, Scott has applied simulation modeling to determination of optimum spans of management (184).

With controversy still existing (82, 116, 195, 204, 216, 235, 255), efforts have recently been made to ally more closely classical theory with modern organization theory. Parker has argued that the main differences between the classical model and the Simon model are in detail and terminology (162). Pffner has accused social

scientists of having an "anti-management bias" and admonished them to overcome it (167; see also 38, 78, 120). House and Miner (105) partially combined management theory with selected findings from the behavioral sciences in an attempt to amalgamate these divergent viewpoints. After reviewing the parallel literatures in span of management and correlates of group size, they concluded that to a limited extent the literatures closely support one another.

In an effort to make specific and clear what is meant by the span of management concept, Van Fleet (236, 237) has called attention to the relationships between variables and overall organizational effectiveness. The specific number of subordinates supervised by any given superior is not crucial in and of itself but rather functions as an intermediate variable between the factors identified in Figure 3 and an evaluation of overall organizational effectiveness. In Figure 3, arrows indicate the direction of hypothesized relations for the variables shown, while the sign indicates what kind of a relation is likely to exist.

Productivity and satisfaction are positively related to the effectiveness of supervision within a group. The effectiveness of supervision is a non-linear function of the number of subordinates in the span of that supervisor. The exact nature of the relation depends upon several factors. The number of the span is only an intermediate variable between the factors and the effectiveness of supervision.

Any evaluation of overall organizational effectiveness is influenced by at least three components: cost, productivity, and satisfaction. High costs lower the evaluation while higher productivity and satisfaction raise it. Effective supervision in turn lowers costs while raising productivity and satisfaction. Administrative costs increase as the number of levels of organization increases, and the number of levels in turn depends upon the number in the span (this is a common hypothesis, but not yet adequately tested). Effective supervision is a non-linear function of the number in the span. Finally, job satisfaction may depend not only upon the effectiveness of supervision but also upon the relative organizational level of the unit in question.

This view of the span concept shifts the emphasis away from *numbers* of subordinates and levels toward *relationships* among variables. The specific *number* in the span is not so vital as the *manner* in which it is affected by the factors and in turn affects the other variables in the total model.

If the works of early writers are examined, several different "labels" appear to have been used for the same concept; but, perhaps they really had in mind different concepts or, at least, different optima. Drucker wrote that his "span of managerial responsibility" was different from (and larger) than the usual span of management or control. Possibly other writers also meant to address slightly different aspects.

Bell and McLaughlin (16, 17) as well as Ouchi

and Dowling (160) have recently dealt with this basic issue of definition and have found evidence to support a "different definition" (or optima) view. Span of supervision appears to be different from span of management or control just as is the span of authority or responsibility. Research is just beginning in this area.

The current state of the span of management concept remains controversial and complex although increasingly sophisticated analyses are used. Some authors continue to argue for small spans, some for larger ones; some feel that the span is a fundamental and important concept, others that it is not important in and of itself; finally, the concept is coming to be thought of in economic or at least in effectiveness terms (77, 93, 113, 130, 141, 175, 178, 180, 213).

Conclusion

A clear expression of the span of management concept is complicated by the fact that its development has undergone two periods of evolutionary growth. The first period was marked by the presence of suggested numerical limitations and the second by general statements of varying applicability regarding optimum spans.

As suggested by early writers, there is a limit to the number of subordinates a superior can effectively supervise, manage, or control. Clearly this limit will vary depending upon the individual superior, members of his or her group, and the situation. Further, an optimum (or optima) may exist which is (or are) different from that limit.

More precise definitions need to be used in future research regarding the span of management concept. Future research must clearly identify not only the "factors" which may affect the span, but also the criteria upon which any value judgments of "too large" or "too small" are to be based.

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