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**factors influencing
the selection of
state office furniture**

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ABSTRACT

Evaluation of the factors influencing the selection of office furniture by nine state governments shows that quality and purchase price have the most important influence on the purchase decision. The intended use of the furniture and the purchasing regulations of the states were key factors in the use of wood furniture.

INTRODUCTION

MANUFACTURERS of wood office furniture have experienced increasing sales over the past decade. The office furniture industry had a total value of shipments of \$850 million in 1969 as compared to \$490 million in 1964. However, the proportion of wood office furniture to metal office furniture in value of shipments has remained nearly constant.

Unlike the household furniture industry, manufacturers of office furniture do not have

an abundance of information defining the factors that influence their customers' purchase decisions. This study, conducted by the U.S. Forest Service Forest Products Marketing Laboratory in Princeton, West Virginia, was the first in a series which attempts to identify the factors that influence the selection of new office furniture. The study's results will help wood office furniture manufacturers to evaluate changes in their production

and marketing procedures that could increase their sales.

PROCEDURE AND OBJECTIVES

State purchasing officials were interviewed to determine the factors that influence their decisions to purchase particular types of office furniture. The questions in this survey were developed from a pilot survey of office furniture users in the Philadelphia area. Nine state governments¹ were randomly selected from the Northeast region as defined by the United States Department of Commerce. This is the region for which data are available for office furniture in the 1967 Census of Manufacturers.

The objectives of the study were: (1) to determine the relative importance of factors influencing the selection of office furniture; (2) to determine what construction materials (wood, steel, plastic) were most commonly used in the furniture selected; and (3) to determine the comparative advantages of wood versus metal office furniture.

SURVEY RESULTS

Market Structure

The survey showed that all of the nine states purchase new wood office furniture; however, the proportion of wood to metal furniture varies widely from state to state.

¹One purchasing official was interviewed in each of the following states: Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island.

The choice of items is normally made by the operating department or agency which will actually use the furniture. This applies to executive-office furniture as well as general-purpose furniture. The purchasing division acts as a central ordering agency. Funds for the purchase of furniture and equipment are allocated to the separate divisions and agencies within the state, rather than to the purchasing division; but the request for purchase is submitted to the purchasing division for approval and action.

In most cases, the purchasing division maintains a list of approved manufacturers of office furniture and only those firms are invited to bid on the orders. This practice limits the choice of furniture but it also standardizes and simplifies purchasing and tends to insure that the furniture will meet the quality standards of the purchasing division. The purchasing department decides on the grade or quality of furniture to be purchased, decides which manufacturers meet these standards, provides the specifications for the purchase, and finally, invites the approved manufacturers to bid.

The level of administration where the decision to purchase office furniture is made varies between states and depends on the type of furniture purchased. The decision to purchase furniture is usually made separately by either the state purchasing agency or the operating agency; in only one case was the purchase decision made jointly by the two agencies.

The following tabulation shows the administrative level at which the decision to purchase is made, for executive and general purpose office furniture, in the surveyed states.

Agencies making decision to purchase

<i>State</i>	<i>Executive office furniture</i>	<i>General-purpose office furniture</i>
Connecticut	Joint decision (purchasing and operating agency)	Purchasing department
Delaware	Operating agency	Purchasing department
Maryland	Operating agency	Operating agency
Massachusetts	Operating agency	Operating agency
New Hampshire	Purchasing department	Purchasing department
New Jersey	Operating agency	Purchasing department (blanket)
New York	Operating agency	Operating agency
Pennsylvania	Operating agency	Operating agency
Rhode Island	Operating agency	Operating agency

Although the operating agencies more frequently initiate the purchase action, that is, make the decision to purchase new office furniture, specifications describing the type of office furniture are usually provided by the

purchasing department. The following tabulation illustrates the degree of control exercised by state purchasing departments over the types of office furniture available to the other state agencies.

State	Specifications provided by:
Connecticut	Acceptable brands list developed within purchasing department.
Delaware	Specifications provided by purchasing department.
Maryland	Purchase regulations published by Department of Budget and Procurement.
Massachusetts	Specifications for wood furniture developed by operating agencies.
New Hampshire	Specifications for metal furniture developed by purchasing department.
New Jersey	Specifications provided by purchasing department.
New York	Specifications provided by purchasing department.
Pennsylvania	Specifications for wood and metal furniture developed out of demands made by operating agencies.
Rhode Island	Purchasing policies published by purchasing department.
	Approved bidders list for metal furniture developed by purchasing department.

Table 1.—Proportion of wood furniture purchased by selected state governments

Furniture type	State									Weighted average
	CT	DE	MD	MA	NH	NJ	NY	PA	RI	
Executive desks	50	80	75	60	(*)	95	80	100	50	66
General-purpose desks	10	20	75	20	10	10	20	50	10	23
Chairs	10	30	25	20	10	10	20	60	10	20
End tables	(*)	50	100	80	(*)	50	95	75	(*)	52
Regular tables	(*)	30	80	60	(*)	(*)	50	75	(*)	35
Bookcases	(*)	30	50	60	(*)	(*)	75	100	(*)	37
Upholstered furniture	(*)	40	50	25	(*)	40	40	100	(*)	40

(*) Less than 10 percent

In Delaware, Maryland, and Pennsylvania, furniture is manufactured in state prisons. In Pennsylvania, use of prison-manufactured furniture is mandatory whenever possible; in Delaware and Maryland it is not mandatory, but prison-produced furniture is significantly lower in price than commercial furniture. This may be one reason why the proportion of wood furniture purchased is high in these states.

Materials Used in Furniture

Wood and steel are the materials most often used in office furniture purchased by State governments. Table 1 summarizes the proportion of wood furniture of various types purchased by the surveyed states.

Table 1 does not include filing cabinets, although they were included in the survey. Only one state purchased less than 100 per-

cent metal filing cabinets, and that state purchased 98 percent metal and 2 percent wood filing cabinets.

All the furniture not made of wood was metal except upholstered furniture purchased by New York State. In New York, 40 percent of the upholstered furniture purchased was wood, 40 percent was metal, and 20 percent was made of plastics and other synthetic materials.

Factors Influencing Purchases

State purchasing officials were asked to consider the relative importance of eight factors in the selection of new office furniture. Each factor was considered independently and was rated from *extremely important* to *not important*. The following tabulation shows the order of importance given these factors by the states:

1. Purchase price
2. Appearance
3. Service life
4. Maintenance required
5. Delivery time required
6. Salvage value
7. Salesman contact
8. Advertising

Several purchasing officials added another factor, quality, and rated it higher than or equal to purchase price in importance. Quality was defined as a combination of appearance, service life, maintenance required, and salvage value. Of these four factors, appearance and service life had the most important influence on the purchase decision. Maintenance required and salvage value were of lesser importance in influencing the purchase decision but were included in the overall category of quality.

Although the eight factors were considered independently, it is impossible to completely separate their influence. For example, those state purchasing officials who cited quality as an important factor felt that the purchase price would fall within an acceptable range once quality was established. In these cases, price was considered dependent on quality, and had less influence on the purchase decision.

The appearance of office furniture was important in relation to the setting in which it would be used. This applied to executive as well as general-purpose office furniture. The coordination of colors between the furniture and the general decor of the office was considered, and the style of the furniture was expected to match that of the offices. This was especially true of furniture purchased for new offices.

Service life for most of the office furniture was estimated by the purchasing officials at between 15 and 20 years. In most cases, the expected life of the furniture was considered important in the purchase decision. Several purchasing agents felt that most office furniture is used long after its expected service life has expired.

Maintenance costs were ranked fourth in importance. The purchasing officials preferred furniture which could be repaired or main-

tained at a reasonable cost. Those states that purchased furniture from state prisons also had furniture repaired by them either at cost or at no cost. Most states contracted with local firms for the repair of furniture. Few states had their own repair facilities.

Delivery time was ranked just below maintenance cost in importance. Of all factors considered, delivery time was the most variable in ranking by individual purchasing agents. In some cases, delivery time was the major factor in the purchasing decision. When large orders of furniture were purchased, delivery time became a very critical factor. In other cases delivery time had no influence in the purchase decision. If manufacturers could not meet the delivery time required in the purchase specifications, they were not listed as approved bidders for office furniture contracts.

Although salvage value was usually included as an element in the broader criterion of quality, it was not considered an important factor in the purchase decision. Most of the purchasing officials felt that the office furniture purchased for state agencies had little or no salvage value at the end of its service life. The explanation given for this was that most office furniture was used for many years longer than its expected service life and the cost of the office furniture was fully depreciated over the 15 to 20 year expected service life.

Sales contacts and advertising were consistently ranked least important. Those purchasing officers who purchased from brokers or wholesalers considered contact with manufacturers' salesmen unnecessary because the wholesalers carried many different lines of both wood and metal furniture. Therefore, those purchasing agents had a wide range of furniture to select from.

The list of approved suppliers limited the number of manufacturers who bid on purchase orders. This also limited the number of salesmen who could or would contact the purchasing officers. Those firms on the bidding list were solicited for bids, and thus did not need to maintain salesmen.

Some office furniture manufacturers advertise with catalogs. This is especially true of

the prisons, which do no other advertising. Purchasing officials need detailed specifications, such as those normally found in manufacturers' catalogs. Advertising through trade journals and similar publications had little influence on the purchase decision, mainly because it did not provide enough detailed information.

Other Factors

The survey showed that state purchasing officials believe wood and metal furniture are about the same in many respects (table 2). Each purchasing official rated wood and metal office furniture using the following phrases:

Modern	Expensive to maintain
Expensive to buy	Preferred by employees
Durable	Pleasing appearance
Easy to clean	Good quality for the price
Long service life	Short lead time required

Out of a total of 90 ratings (one rating for each of the 10 phrases by nine purchasing officials), 48 indicated no difference between wood office furniture and metal office furniture. Eighteen of the ratings favored wood, and 24 of the ratings favored metal.

Six out of nine purchasing officials gave equal rating to wood and metal office furniture on the following qualities: modern, durable, long service life, preferred by employees, and pleasing appearance.

Eight out of nine officials surveyed indicated that they preferred wood for executive office furniture and metal for general-purpose office furniture.

Choice of metal general-purpose office furniture was controlled by the specifications set up by the purchasing departments and could therefore be influenced greatly by the per-

sonal preferences of purchasing officials. Choice of wood office furniture, usually executive office furniture, did not depend as much on the specifications but more on the user's preference. The idea that wood is an executive status symbol was pointed out in the responses concerning the officials' personal preferences.

DISCUSSION AND CONCLUSIONS

The purchasing practices of the surveyed states can influence the proportion of wood as compared with metal office furniture purchased by each state. The use of approved or accepted bidder's lists effectively limits the number of manufacturers who can bid on contracts for office furniture. These lists are established in accordance with a series of rules and regulations governing each state's purchasing policies and reflect the furniture specifications of the purchasing department. Because these specifications most often describe only metal office furniture, the lists of approved bidders are limited to certain manufacturers of metal office furniture.

One factor influencing purchases was the presence of prison industries in three of the states surveyed. These prison industries manufacture wood office furniture and receive preferential treatment. In Maryland and Pennsylvania, the furniture purchased was limited almost exclusively to those types manufactured by the prison industries. As a result, these states purchased a higher percentage of wood office furniture than the other surveyed states.

Table 2.—Characteristics of wood and metal office furniture
as rated by state purchasing officials

Characteristic	Wood predominant	Equal rating	Metal predominant
Modern		X	
Expensive to buy	X		
Durable		X	
Easy to clean			X
Long service life		X	
Expensive to maintain	X		
Preferred by employees		X	
Pleasing appearance		X	
Good quality for the price			X
Short lead time required			X

Catalogs of wood office furniture produced in the prison industries were available at the purchasing agents' offices. The furniture appeared to be high in quality and yet very low in price when compared to other commercial types of office furniture. Even where buying from the state industry is not mandatory, this price differential could easily be the primary factor influencing the states' purchasing decision.

Availability of wood office furniture that will meet the specifications of the purchasing departments also influenced the states' purchases. Several purchasing officials mentioned uncertainty about the availability of suitable wood office furniture, particularly for general purposes.

Wood office furniture manufacturers are faced with several problems in increasing their share of the state government market

for new office furniture. First, they must be listed on approved or accepted bidder's lists maintained by the state purchasing departments. This is especially important for general-purpose furniture, which is most frequently purchased from such lists. Second, they need to develop a general-purpose product line that will provide good quality at a price competitive with metal office furniture. Wood competes favorably with metal in the executive lines. However, general-purpose furniture comprises the bulk of purchases and in this line, metal office furniture is favored primarily because of price. Finally, manufacturers must insure that availability of their product is not limited by excessive delivery times. The ability to assemble pre-finished parts quickly in response to a purchase order has been an advantage enjoyed by metal office furniture manufacturers for some time.





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