

PRINCIPLES AND PROCEDURES

OF

MAIL ORDER MERCHANDISE INVENTORY CONTROL

by

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I INTRODUCTION

GENERAL
PROBLEM

The problems presented in connection with the inventory control of nearly any merchandising venture are numerous and are fully as vexatious as they are numerous. They may be simply stated, however, even so in a collective sort of way as follows: "How may we turn our investment over as many times as possible and yet conserve the greatest ultimate net profit?"

Were it not for that troublesome "ultimate net profit" proviso, the affair becomes fairly simple. It is patent that the higher our merchandise turnover figure is the smaller our average inventory must be in proportion to the sales realized. This in turn means a smaller amount of money invested and a saving on interest charges.

If a high turnover figure were the sole aim it could easily be obtained by maintaining hand-to-mouth stocks of sure selling items. Ultimate net profit considerations however change the picture. Non-volume items having uncertain sales must be carried to round out the line and afford variety of choice. Stocks may not be too scanty or the resulting poorness in service will alienate customers and drive trade from the door. A hand-to-mouth buying basis followed without exception would mean the sacrifice in many cases of extra profits, to be obtained from quantity buys and out-of-season purchases.

It follows then that the saving on interest charges resulting from a high turnover is but one factor in the building of net profit and that it must be balanced against these other factors mentioned above in order that the greatest ultimate net profit will result.

The major problem which confronts us then is this; "How may we manipulate our inventories so that a reasonably proper balance of

these factors may be maintained". The problem involves not only the recognition of the point of balance desired but also the practical procedures used so that this point may be attained.

As indicated before we face this problem as a common one in company with other merchandisers. Other mail order firms encounter practically identical phases of it. Firms less like ours must meet the problem with perhaps individual differences in detail.

Although the problem is a general one there is little enough written material in the field. There are a few general treatments of general merchandising topics including turnover, but seemingly little serious attempt to get down to cases and record practical procedures which aim at our problem's solution.

The impression seems to be abroad that merchandising problems must all be handled individually by rule of thumb constructed through trial and error. Consequently there has been little accumulation, study, and classification of both general principles and specific procedures designed to carry out these principles.

The result has been of course a very minimum of exchange of ideas and experience between various merchandising firms. When the only interchange is by word of mouth this may be expected.

The resulting tardiness in progress along the lines of inventory control is natural. Where there is little pooling of experience and no common shaping of specific and concrete problems and answers we could expect little else than a slowness in eradicating inefficiencies and errors.

As a natural result many firms besides our own have started practically at the beginning of many problems and have passed through painful stages of primary experimentation, although someone else had already passed through these same experiments and had a wealth of "dear" experience behind them.

If our present day scientists could not have started from where yesterdays scientists left off, we would not now have aeroplanes or radio. If our scientists of yesterday could not have profited by the experiments and ideas of previous generations we would not have telephones, automobiles, or electricity harnessed to do our bidding. If each scientist had to start from practically the beginning with no help except from those men with whom he came in contact, how many of them would have wandered into the same blind alleys and up the same wrong avenues of experimentation with final progress limited by the length of human life!

Yet merchandisers have been content in a large measure to each one experiment for himself - many times from beginnings instead of from where someone else left off. Our sole solution for this problem has been the interchange of executives between enterprises. The limitations of this method may be illustrated by comparing the efficiency of the old town crier with the modern newspaper.

It seems clear that unlimited opportunity presents itself in this field for the installation, if you please, of the laboratory methods used by scientists. Certainly it cannot be claimed that merchandising can be made an exact science and that there are immutable laws of buying and selling to match the laws of Physics and Chemistry.

It does not press ones imagination too far however to discern the possibility of recording and classifying practices and procedures and even the development of many definite merchandising principles which experience seems to support. The definite and logical recording of our experiences or experiments should if advantageously handled save many in our own organization as well as others from the troubles and errors we have encountered and finally surmounted. It should make it possible for the general merchandising field to move forward, building year by year on the past performances not of individual firms but of the field as a whole.

Perhaps before this can be carried to the same degree of success as in the field of science some further feeling of Class consciousness or responsibility must exist among merchandisers. Perhaps a realization will have to come even more clearly than at present, that cooperation is more profitable than cutthroat competition. However that may be, the way lies open with inviting prospects ahead.

It becomes an important task then to attempt the cataloging of experiences and the development of general principles and specific procedures in connection with our own business and set these forth clearly in this discussion. Our aim would be to thus cash in on previous experience and to provide definite methods to apply toward the solution of the ever new situations constantly arising.

We have made some strides in the desired direction and this progress will be gone into at length in the discussion which follows later.

We are somewhat backward in our efforts when we compare them to the work done in the fields of operating and production. However, in both of these fields we find ourselves dealing mostly with tangible factors. On the other hand inventory control finds itself basically concerned with predicting future demands which certainly is indefinite and largely intangible. This fact certainly makes the problem harder to approach.

Certain conditions obtaining which are peculiar to the mail order business further complicate matters.

The catalogue is the mail order salesman and it tells the same story for a comparatively long period of time. Salesmen for other types of merchandising may change their quotations overnight in order to meet a change in the market. They may add new items to their list or drop the "duds" as circumstances may dictate.

Our mail order "silent" salesman still tries to sell an item for fifty nine cents when competition has dropped it to fifty three and still offers only knee length dresses when the local retailer is offering the new silhouettes.

Quick and unfailing service is demanded by the mail order customer. If he fails to receive it he will likely go to his local store. We are tremendously handicapped by lack of personal contact as a shift in demand can be often made when the customer is present, whereas situated in our mail order house we must be in a position to send the merchandise ordered.

These highly specialized mail order problems merely serve to emphasize the necessity of efficient merchandise inventory control.

The task of providing merchandise so that it is available for our customer needs has been divided into two separate functions so that the advantages of specialization in labor may be enjoyed. The two divisions in the work are designated as Buying and Rebuying. The names are significant and denote the functions performed.

The Buying organization decides what items are to be listed, decides on the source of supply, and makes the contract which specifies the cost and the conditions under which the merchandise is to be delivered. The Rebuying organization takes up the work at this point and assumes the responsibility of maintaining the items specified at the proper inventory level.

As this discussion has to do with the problem of inventory control it will be readily observed that it will resolve itself largely into a study of the principles of Rebuying, and the procedures which should be followed by the Rebuying organization in carrying out those principles.

II. THEORY OF INVENTORY MAINTENANCE

NEED
FOR A
WARE-
HOUSE
STOCK

It seems obvious that our method of doing business requires a warehouse with large quantities of merchandise on hand. This has been accepted so readily that we are apt to lose sight of the reasons why such a warehouse stock is necessary. When we lose sight of these reasons we are sure to lose the control we should have over the stock.

The functions performed by our warehouse stock may be generalized as two in number. One of these functions is as "storage" and the other is as a "reserve" maintained for constant current use.

As
Storage

It is readily apparent that a warehouse stock assumes the function of storage whenever it becomes desirable to hold merchandise over a period of time.

The merchandise to be held may have been accumulated either accidentally or with a purpose. Merchandise left on hand at the end of a season is usually carried as "frozen" stock until the most profitable time to move it. In extreme cases this may require a storage for nearly a year until the next season.

Merchandise is often purposely bought for storage. The motive behind such action however is the creation or conserving of a net profit which will more than balance the loss in turnover involved. These cases arise sometimes with an opportunity to buy a several months stock at once at a reduced price or with a chance to buy at special prices during the dull season. Again on a rising market additional quantities may be bought as a safeguard against paying higher prices later. Sometimes it becomes necessary to take in large quantities ahead of our actual needs in order to be sure to

have the merchandise. This latter case arises with certain sources of supply and may obtain where the production is limited or the factory has a monopoly.

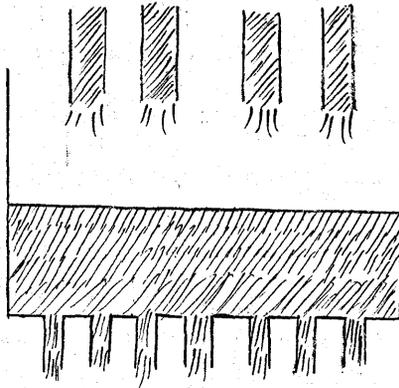
Rather frequent instances of the exercise of the storage function arise in order to save on transportation charges. Current requirements are increased to carloads in order to command carload rates of transportation. Hundred pound shipments for freight are specified to utilize to the full minimum weight charged for by the railroad. Sometimes the factory pays the freight if certain minimum weights are ordered. These usually range from 200 to 500 pounds. In all of these cases of course we are careful to balance the transportation charge saving against the loss incurred in interest charges.

Conversely it should be pointed out in this connection that in periods of falling prices, hand-to-mouth buying of course reduces the buying for "storage" to a minimum.

As a Reserve

Although the "storage" function performed by the Warehouse stock is perhaps the most obvious nevertheless it is by no means the most important. The other function as referred to previously is that of a "reserve" maintained and used continuously as a leveling agency for an uneven supply and demand. The need in this connection is perhaps understood less than the other as it is not so clearly apparent. The function is vital however. Around it revolves the whole theory and practice of inventory maintenance.

The illustration given below of a water tank forms a perfect analogy to our point in question.



We have here a water tank with intake pipes at the top through which water enters the tank and outlet pipes at the bottom through which water leaves it. We also have an obligation to keep the outlet pipes full.

Consider this situation. We have as large a supply of water as we wish and we have control valves on the intake pipes. We also have control valves on the outlet pipes. We will set our outlet valves so that exactly 1000 gallons per minute will flow out. We will also set our inlet valves so exactly that 1000 gallons per minute will run into the tank. It will be seen that the water merely runs straight through the tank and there will never be any appreciable depth to the water within the tank. The only depth necessary is that taken to wash over the mouths of the outlet pipes. We have here no "reserve" but merely a "distributing" tank.

It is further seen that the volume of the flow may be indefinitely increased without creating the necessity for any reserve of water within the tank; as long as we can be certain of the intake and outgo.

Let us now change our conditions. We have no control valves on the outlet pipes and these pipes lead to water users where the demand is variable. We have contracted to furnish them without fail as they need it, an average of 1000 gallons per minute. Experience shows that the demand may drop to 800 gallons or rise to 1200 gallons although the average is 1000. We as the water furnisher do not know when the consumption will decrease and when increase.

Under this set of conditions it is apparent that the carrying of a reserve of water in the tank will insure a continuation of the flow when the demand increases suddenly without warning from 1000 gallons to 1200 gallons. The increased outgo will come from the water in reserve and will afford us an opportunity to open our intake valves wider and increase the flow to offset the increased outflow and at the same time build the level of the water so that the reserve is again established.

The reverse of this situation comes if the outgo suddenly drops to 800 gallons per minute. The level of the reservoir will naturally rise until we reach intake valves and reduce the flow.

It follows clearly what would happen if the fluctuation in the outlet volume was from 500 to 1500. A jump in demand to 1500 would demand a larger water reserve as a safeguard than a jump to 1200.

We may conclude then that the size of the reservoir depends upon the degree of uncertainty in the change. If the possible change is from 1000 to 1500 the degree of uncertainty is more than

if the change might be from 1000 to 1200 and more reserve is necessary as was developed above. It follows then that the greater the uncertainty the higher must the level of the reservoir be.

Let us now complicate the situation further by assuming an imperfect control of the intake valves. Sometimes they stick and we cannot increase our supply of water just when we wish to.

It is apparent this new condition merely intensifies the factor of uncertainty and makes an increase in the reservoir level necessary in order to insure that the varying demand of the outlet pipes will be met.

By this time the reader has himself probably applied the analogy to our mail order inventory situation.

If we had absolute control over the arrival of all merchandise and if we knew always exactly just what our demand would be, a warehouse reserve would not be necessary. We could maintain a "distributing dock", if you please, and merely transfer merchandise from cars incoming from factories to cars outgoing to customers.

The practical situation is however very far from that. Every factor which enters in is fraught with uncertainty.

Our mail order outlet pipes are constituted by the orders from our customers. What their outflow of merchandise resulting from this demand will be day by day, week by week, month by month no one can correctly estimate. It is true we are able to forecast

the general trend of our business fairly well by using previous sales experience and modifying it by a consideration of current conditions. When we attempt to break this total demand down into the individual item demand however, we find our difficulty in forecasting has multiplied itself. The law of averages which has aided in estimating the total trend we find does not operate here in the same degree.

It goes without saying that merchandising is done by individual items - not by grand totals. Consequently our demand and supply factors must be considered from that angle. Sometimes we confidently expect a certain movement of stock and then find the volume is much greater than expected, or perhaps much less. It seems apparent without further treatment that our customer demand by items will then be quite uncertain.

Following our water tank comparison still further, we look to the supply pipes. Of course these involve the shipments from our various sources of supply. Here unlike with our customer demand we have some semblance of control. We may specify definite shipping dates and allowing a reasonable time for transportation may count with fair certainty on the arrival of our shipments on certain dates.

Often however the plans go awry and the merchandise does not arrive on schedule. Occasionally there has been an unusual delay by the transportation company but usually any appreciable trouble lies at the source of supply. Trouble in production, lack of raw materials, excess of business, lack of sufficient anticipation on our part, all contribute at various times their share toward un-

expected delays in shipment. While many factory delays are actually expected and may be allowed for, nevertheless we find that unexpected delays are numerous and must be considered.

The comparison to the water tank is now complete. We have uncertainty in our control of the supply of our merchandise and we have even more uncertainty in the demand for the merchandise.

We should keep it clear in our minds that it is not the changes in the volume of business which make us seek protection for our demand, but instead it is the unexpectedness of these changes and the uncertainty as to the degree of change.

If we finish the analogy therefore we would create a reserve of merchandise to offset the uncertainties in supply and demand. This is precisely what we find it necessary to do in order that our customers orders may be filled.

In manipulating our inventories we aim then to maintain a certain minimum reserve of stock or "stock cushion" which is to take up the unexpected increases in demand and decreases in supply. As in the case of the water tank the outlet or demand service may then be continued uninterruptedly by draining on this stock cushion while the supply volume is being adjusted to meet the new conditions.

The stock carried in the inventory may be classified then under the two headings of reserve and storage. The amount to be carried is not easily determined but is arrived at through an allowance for several factors which demand consideration.

We will discuss the influence of the stock cushion first. It should be clear to us by now that our stock cushion springs from a

AMOUNT
OF STOCK
CARRIED

As Reserve

need to safeguard our service against the uncertainties of the changes in supply and demand and further still that the amount of stock cushion necessary depends on how uncertain these factors are.

It would seem then that we must estimate the range of uncertainty likely to be experienced in connection with the item under consideration and then set the stock cushion large enough to cover this range. This principle followed throughout the various lines creates the total stock cushion or minimum reserve and determines rather definitely its size.

For instance we may be considering a line of ladders and find by referring to various sales records that the sales have been rather spasmodic in the past not seemingly following any definite trend. Furthermore, our ladder factory does not always ship as they are supposed to. As a consequence of these evident uncertainties in supply and demand, we may specify our shipment so that according to our best estimates it will arrive thirty days before our stock previously on hand will run out. This will provide a thirty day stock cushion. If our uncertainties materialize however, we may actually find that the stock is practically exhausted when the shipment arrives. In other words the stock cushion has performed its function of maintaining service in the face of an unexpected increase in orders or slowness in factory shipment.

We may consider the Gyrator Washing Machine and find a somewhat more dependable demand than in the case of ladders. A large

volume of sales has perhaps helped to steady the demand. Our contact with the factory indicates a continuous and sufficient production of Gyrotors is being maintained so that the supply is dependable. In this case we might consider a fifteen day stock as sufficient cushion and so specify our orders.

In the examples and discussion given above we have assumed that we should establish our stock cushion large enough so that our service on customer orders may be unimpaired. It is evident however that the larger our cushions the larger our inventories and the less our turnover.

A practical consideration shows that it is impossible to entirely eliminate irregularities in filling customers orders although our stock cushions hold them to a minimum figure.

However from the standpoint of net profit it may prove too costly to try to hold the irregularities too low on account of the decreased turnover. At times therefore the interests of the company may demand lower inventories and higher turnover. It may be decided that under existing conditions the company will profit more by extraordinarily low inventories than by insuring against an out-of-stock condition through proper stock cushions. If so, the policy is carried out by cutting down the cushions and then shouldering the troubles which result more frequently ^{or} then before from an out-of-stock condition on various items. This situation usually obtains in a period of continuously falling prices or when such a period seems imminent. A scanty stock permits replacement at lower prices and net profit is affected in major proportions.

Whatever the stock cushion decided upon however, it becomes the average low point of the inventory reserve. This much is obvious. The average high point is naturally this stock cushion plus the amount of merchandise brought in at any one time. The inventory will then range between those two points.

We are now able to see that the size of the reserve section of our inventory depends on the stock cushion and the amount customarily brought in in one shipment. This will be discussed in detail further on.

As Storage

As brought out several pages previously a part of our warehouse stock is carried as storage both accidentally and purposefully. The amount that is carried this way is hardly as subject to rules and plans as is the "reserve" section.

The overstock accumulated involuntarily is a result of estimates which prove larger than the actual demand so that an excess over current requirements exists. It may consist of items still listed in our catalogue or of items which have been discontinued. In any case however they are carried only long enough to dispose of them in the most profitable way. Considerable effort is spent toward reducing these unintentional overstocks and more detailed description of the methods used will be gone into later. Needless to say the best method of reducing these overstocks is by preventing them. This merely harks back to the fundamental function of rebuying which is to purchase the correct amount at the correct time. Most of the attention in this general discussion will be given to a consideration as to how we may do that very thing.

Although the amounts of merchandise which appear as unintentional overstocks are not generally determinable in advance, the amounts of merchandise put purposely as storage into the inventory are naturally determinable. The creation of them is governed by no particular principles however except that of seizing extra net profits whenever possible. We cannot say then just how large our section of storage should be as the opportunities for special purchases and the necessity for special coverages come often unexpectedly. It is true the buying offices who control most of the purchases of this type do try to plan ahead on them as much as possible. It is evident however that a certain elasticity in the bounds of the inventory storage must exist so that opportunities may be taken advantage of when they present themselves.

Sometimes however the regular plan for rebuying includes the accumulation of storage on account of carload transportation savings and related economies as described previously. These may be planned for in advance usually and allowed for in the storage section.

It is difficult sometimes to determine offhand whether a purchase entailing storage will be ultimately profitable. The immediate savings in the purchase price or transportation charges must be balanced against the loss in interest, warehouse expense, possible shrinkages, and liability for further market change in price or improvement in product. It is also difficult sometimes to determine the ultimate comparative profit in liquidating or holding overstocks, for similar reasons.

We will content ourselves here with pointing out the necessity for a study of these factors entering into the storage question as each individual problem arises. The correct answer cannot be arrived at in an offhand way.

TROUBLES
FROM
IMPROPER-
LY SIZED
INVENTOR-
IES

A discussion of the factors governing the establishing and sizing of inventories would hardly be complete without some consideration of the troubles which arise from inventories which are sized improperly. This consideration may at least emphasize the necessity of correctly understanding the principles of rebuying under consideration and the extreme importance of establishing practical procedures which will actually control the factors and carry the principles of control into positive execution.

We have already referred in a general way to some of these troubles which have to do with overstocks - not however understocks which are important also.

UNDERSTOCK
TROUBLES

If our inventory on certain items is too small the stock will be exhausted and an out-of-stock condition will prevail until a new shipment is received. Very definite losses occur as a result of not being able to fill the customers orders when received. Let us examine the several methods of meeting this situation.

Profit
Shrinkages

Perhaps the most profitable and satisfactory handling lies in either a good substitution or a short delay in order to furnish the merchandise ordered. Just which is the best depends on the circumstances.

A good substitution very often means that the article substi-

tuted costs the company more than the article ordered although of course less than the selling price. There is an actual loss although the selling price is above cost. The loss lies in the fact that the profit is not as great as it would have been if the article ordered had been available. This constitutes a shrinkage in the profit to the amount of the difference between the two costs. Even substitutions which do not involve a difference in cost prices cause additional expense in handling as described below and therefore cause a loss.

Many times a "shiplater" is made on an item out of stock. This means simply the transferral of the item out of stock onto a delayed order form to be shipped later when the merchandise arrives. This many times involves the least trouble as there is no direct profit shrinkages to consider and the customer receives what he ordered. The special handling necessary however entails a loss as described below. Also additional prepaid postage charges are incurred. When a light item is shipped with other merchandise on the original order, its share of the transportation charges is comparatively small particularly if shipment is by freight. A delayed item shipped alone usually incurs a higher transportation charge. The difference between the two charges is then a direct loss chargeable to the out-of-stock condition.

Inasmuch as orders may not be shiplatered for more than ten days, and inasmuch as proper substitutions many times may not be possible, we are faced with the possible loss of a sale. In such case we attempt to pickup the same or similar merchandise from some local or nearby wholesale house or factory. Whenever a pickup is made a price is paid higher usually than the price

at our regular source. The difference in cost of course represents a loss.

If no substitutions are possible, no shipment will arrive within ten days and even pickups cannot be made, the order must be omitted and the customer's money returned to him. This will happen also even if a shipment is scheduled to arrive within ten days if the value of the merchandise in question is less than \$1.00. Orders less than \$1.00 it has been considered do not involve enough profit to justify the trouble and expense of handling a delayed order. It is apparent that an omission means a loss of the entire profit on the transaction as well as a wasted expense in handling the order.

Expense in
Extra
Handling

Loss through extra expense of special handling should not be overlooked when considering the troubles resulting from an out-of-stock condition. All orders involving shiplaters, substitutions and omissions, collectively called "merchandise irregularities" must pass through special procedures for handling. All of them require a system to provide proper authorization and censorship. Furthermore they all require a system to provide the customer with proper notification.

In addition substitutions and omissions require that they be properly recorded on the sales records so that the true demand for the item may be known. Also shiplaters require a filing system and a rehandling when the shipment is finally made. Other added operating expenses also enter in such as the transfer of stocks on substitutions from bin to bin and the reparation of substituted merchandise.

Loss of
Customers'
Good Will
Through
Poor
Service

A large measure of confidence in us must be had by the customer for him to do business with us at long distance. Not only must he trust our integrity and good intentions but also our ability to give the service we advertise. Experience has shown us that it requires but one or two instances of unsatisfactory service to tear down in a certain customers mind a confidence and good will built up through many years of dealing.

When the customer does not receive almost immediately exactly what he ordered he is inclined to forget the large number of times he has been served perfectly and instead allow his present disappointment to fill his horizon.

Sometimes a substitution made although it would please the majority does not please him. A shiplater might be acceptable to most people but is not to him at least at that moment. An omission means that his trouble and waiting have gone for naught and he must delay further or else buy elsewhere at perhaps a higher price.

At any rate he is disappointed and justly so. We advertise prompt service and he is justified in expecting to receive exactly what he ordered by return mail, freight or express.

It is not a far fetched thought that our biggest loss from an out of stock condition lies in the orders which as a result we do not receive.

A mail order business is one which reaps the crop as sown in former years. The future must therefore be looked to and not

present profit alone. We must be more than careful that the saving of a penny now may not result in the loss of a dollar ultimately. The inherent intangibility of Good Will necessitates a more zealous guardianship of it than if it were more material and measurable. It may be measured to a certain extent by the volume of complaints we receive and merchandise returned. This measure is not complete however as there are complaints which the customer never puts on paper. Notwithstanding this they are none the less real and are usually passed on to the neighbors.

The impossibility then of gauging the final effect of merchandise "irregularities" on our customers makes it doubly essential to hold irregularities at a low level so that Good Will, the mainspring of our existence, if you please, may be maintained at all hazards.

There is a natural universal tendency to sacrifice the future for the present and this tendency is not absent in the manipulation of our inventories. However, a forward looking policy is surely required in our activities in order to further strengthen the merchandising structure which we have inherited.

The table which follows will give some idea as to the number of irregularities experienced at one of the mail order branch houses for the last six months of 1929 as compared with the number of customers tickets handled. It will also show the relative amounts of the three classes of out-of-stock irregularities, shippers, substitutions and omissions.

(Approximate Figures)

Month	Shipments	Substitutions	Omissions	Total % to Tickets
July	8 500	3 200	4 000	1.50
August	15 000	5 500	7 600	1.75
September	11 500	3 200	4 300	1.60
October	12 200	3 100	3 600	1.30
November	11 900	3 400	3 700	1.15
December	9 200	8 700	8 900	1.25

TROUBLES
FROM
OVERSTOCKS

A comparison of the losses which actually can be measured has always shown that losses from overstocks are far in excess of the losses from understocks and constitute considerably more than a nominal figure. A study of them is naturally then an important part of the consideration of our merchandise problems.

By overstocks we mean that amount of merchandise which is over and above the current needs of the "Reserve". For convenience in considering its problems, overstock has been divided into four general classifications. The first consists of items which are listed in the current regular catalogues. Class two is composed of formerly listed items which are not in a current catalogue but which will be listed in the next one. Class three contains items listed in a previous book but not now listed and not scheduled for a future relisting. Class four consists of items bought for some reason in advance for use in a succeeding catalogue period.

In a previous section of this discussion it was brought out that overstocks called upon the inventory to perform a function of storage and that they were both accumulated and held both purposely and unintentionally. It seems clear that Class four is

both accumulated and held purposely. Class three is both accumulated and held unintentionally. Class two is accumulated by accident but held on purpose. Class one may be both accumulated and held either unintentionally or purposely.

Losses
in
Interest
Charges

In any case however the direct loss from which an overstock condition cannot escape is the interest on the money invested in the overstock. This interest charge must be more than compensated for in reduced costs or a valuable equivalent in order to justify an intentional accumulation of overstock. Instances of this were given in a foregoing section regarding the storage function of the inventory. On those overstocks accumulated unintentionally however, the loss is not compensated for and continues until the overstock is removed. Usually such a removal is forced therefore as quickly as possible.

A forced removal of the overstock is sometimes not desirable when a natural removal will take place through customers orders in the course of time. The desirability is determined by balancing the loss in interest against the losses entailed by a forced removal as explained later.

This condition may exist then in Class one and Class two as they contain items to be relisted. Neither Class one overstocks on items not to be dropped nor any of Class three can be removed in a natural way as they are not being relisted and therefore must be forced out.

We find then that there are overstocks in Class one and three

which must be forced out regardless of the loss involved as there is no natural way of moving them. We also find there are overstocks in Class one and two which will finally move out naturally and therefore should be forced out only if the interest charge to carry them is greater than the losses incident to the forced selling.

Shrinkages in Profit through forced Liquidation

The losses incurred by forced selling of overstocks may be arbitrarily classified according to the methods used in liquidating.

Those items listed in current catalogues may be transferred to some other branch house which is in need of them. The charges are adjusted so that the buying house pays exactly the same as if they had ordered from the factory. This means a loss to the selling house of wasted handling charges and usually some loss in transportation charges involved in delivering to the buying house.

The Retail Stores connected with the mail order firm form a natural outlet for a large portion of the overstocks which are seasonal. Many times however the end of the season is near and a reduction in selling prices is necessary in order to move the volume in question. In such a case the mail order branch will assume the loss necessary by reducing the cost so the Retail Stores may maintain their regular markup and yet sell at a reduced price.

The method of forcing liquidation which results usually in the least actual loss is through substitution. Where the overstocked item forms an excellent substitute for another

listed item we may intentionally allow the stock on the latter item to run out so that a substitution may be made and the overstock reduced. The loss involved in substitutions was explained in the section devoted to losses through understock. The same loss is experienced here.

When the other methods of forcing liquidation prove inadequate the selling to jobbers and small retailers may be resorted to. Job lot selling is limited almost entirely to Class three or discontinued items. In nearly all cases a substantial cut under the original cost is necessary before a job sale can be made. These "job losses" are usually so large that care should be taken to press the other methods of liquidation in preference to jobbing.

Losses through Holding

Stocks carried into a falling market may be replaced at less money. It is evident therefore that overstocks prevent a quick use of lower costed merchandise and cause an actual loss equal to the amount of the drop in the market.

Where a falling market is encountered good merchandising practise requires a close hand to mouth basis of inventory manipulation. The storage section of the stock must be reduced in every possible way. Even extra profits offered by sources of supply in the way of special discounts for quantity and out-of-season purchases must be viewed with suspicion as these extra "profits" have been known to dwindle into losses by the time the liquidation period had arrived. Unintentional overstocks ordinarily held for future regular use must be removed if possible

without loss so that rebuys may be made at lower prices.

Under such conditions even the Reserve set up to insure the filling of all orders may be reduced to some extent so that lower costs may make it possible to lower catalogue prices. However, this should not be carried far enough that the service to customers is seriously impaired.

The carrying of extra stocks is expensive from a physical viewpoint. The warehousing problems presented are numerous. Not only is rent involved but also a certain amount of extra handling. Sometimes the proper conservation and allotment of space in a limited warehouse area demands a shift in the arrangement of merchandise from time to time. Overstocks naturally increase the cost of such moves. Much of this merchandise must be counted periodically also and this expense is added to the total.

DETERMINING
PROPER
INVENTORY
LEVEL

The maintenance of the inventory level at such a point that the highest ultimate net profit for the company may be realized has been stated previously as being the function of our Rebuying activity. In manipulating our stocks we find two opposing tendencies which must be reconciled. The one demands that the stocks be kept at an exceedingly low point so that the investment be as small as possible. The other is that the stocks be kept at a comparatively high level so that no out-of-stock condition will prevail. A compromise between the two must be made of course as stocks large enough to absorb all of the unexpected increases in demand would put the inventory at such a high level

that the cost would be out of proportion to the benefits derived.

Compromise
Necessary

There is a middle ground which allows reserve stock so that the irregularities are kept reasonably low and yet will allow a reasonable turnover on the investment. A correct policy provides an occupation of this middle ground. Perhaps the term middle is hardly apt as the position usually taken on this matter is hardly midway, but is rather on the side of plentiful stocks and excellent service to customers. It is recognized that profits depend upon sales and that sales cannot be made without merchandise on hand to sell.

Budget
Sheets
Indicate
Performance
Desired

Exactly where in this middle ground we are expected to take our position is determined by Home Office Executive decision and is expressed in the budget sheets through specific performance being asked for. A further treatment of budget building follows in a later section. Sufficé it to say in this connection that the turnover figure asked for and the irregularity figure asked for bear a relation one to the other. If in a falling market an extraordinarily high turnover figure is budgeted, we find at the same time that the figure for irregularities is also increased to some extent. If lower turns are expected, we find a lower rate of irregularities to be met also.

The setting of these budget figures defines clearly the target at which we are to aim and furnishes a goal to strive for which acts as a spur to best efforts.

Necessarily budget figures are set up in advance of the period concerned. Owing to the involved nature of many of the considerations, considerable time is consumed in constructing these budgets. Conditions are naturally changing constantly. So many times certain elements of the budget may be incorrect almost as soon as it is in use. The only remedy for this is to revise the budget frequently, perhaps every two months.

In as much as our present budget period is six months long it becomes necessary to modify the budget figures through instructions from the General Merchandise office whenever a change in conditions necessitates a change in merchandising policies. Such changes may come either in the market or in the nature of the customer demand. This in effect revises the key figures in the budget to meet current conditions.

Good merchandising always demands a quick shift of position or policy from time to time. A budget is after all but a guide to better performances and if a consideration of greater ultimate net profit demands a modification of the budget our system is certainly elastic enough so that profits may be conserved and increased although the budget performance is not met.

III BUDGET FIGURES

FUNCTION

In the foregoing chapters it has been pointed out that in order to realize the greatest net profit possible, it becomes necessary to set up certain goals to strive toward, which, if reached will set the level of inventory at the proper point. These goals are set by means of a merchandise budget every six months. The principal budget figure is that which sets the turnover desired for the turnover really dictates the merchandise performance. Although the irregularity performance is largely consequent to the setup for turnover as explained before, a budget figure is furnished so that the matter may be approached in a very definite and direct way. A budget figure is also set in connection with the various shrinkages which result from errors in merchandising. The nature of these shrinkages was discussed in connection with merchandise irregularities in a previous section. It is true the total shrinkage figure as shown on the budget sheet does contain elements other than merchandising ones. The purpose of the figure remains the same however regardless of the elements contained and the functions of setting and maintaining a budget figure for shrinkage remains a vital one in accomplishing our merchandise performance.

The function performed by budget figures has been rather clearly indicated in the last of the preceding section as being the setting of a target at which to aim and at the same time, if a change in the metaphor be permitted, to erect a barometer by which we may tell our exact position in relation to our final performance reached for.

It may be thought in some quarters that the setting of budget figures is a waste of effort and that if "we do our best to merchandise well" no more can be expected. This theory however assumes we will and can do our best without the aid of a spur. This is hardly true as the continuity of achievement shows that we are never doing our best and it needs but the pointing out of new upward trails and the establishing of guide posts along the way to spur us to new heights of accomplishment.

GENERAL
INTER-
RELATION
OF THE
BUDGET
FIGURES

A facsimile of a merchandise Budget Sheet is shown to indicate how definite are the performances set. It will be observed by the captions that some of the items represent goals for performance and others represent estimates of performance used in calculating the other significant items. These items may be roughly grouped under three heads: first, estimated profit performance; second, turnover or inventory control; and third, service performance.

Profit
Performance

In line five is shown the "markedup gross profit" percentages as estimated by the Buying Office from their sales plans. This percentage is figured against the net sales and should obtain if the various items sell in the proportion as estimated. This percentage would then represent the gross profit if the various shrinkages already mentioned did not enter in. However, various inefficiencies and accidents serve to create both a diminution in the profit as planned and also actual losses.

MAIL ORDER MERCHANDISE DIVISIONAL BUDGET FALL AND WINTER 1929

		JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	Semi-Annual Adjustments	TOTAL
Inventory (Beginning)	1929	258 049							
	Bud.'30								
	Act.'30								
Purchases	1929	50 885	87 005	83 859	101 264	69 845	108 688		501 546
	Bud.'30								
	Act.'30								
Net Sales	1929	75 881	103 852	67 417	92 299	87 356	64 774		491 579
	Bud.'30								
	Act.'30								
Amount	1929	19 964	28 912	20 967	29 065	27 736	21 755	17 415	165 814
	Bud.'30								
	Act.'30								
Marked-up Gross Profit %	1929	26.31	27.84	31.10	31.49	31.75	33.59	* 3.54	33.73
	Bud.'30								
	Act.'30								
Amount	1929	1 936	2 388	1 834	2 966	2 453	1 751	1 448	14 776
	Bud.'30								
	Act.'30								
Merchandise Shrinkages %	1929	2.56	2.30	2.72	3.22	2.81	2.70	* .29	3.01
	Bud.'30								
	Act.'30								
Amount	1929	5 904	5 873	6 423	7 627	4 460	3 256	30	31 575
	Bud.'30								
	Act.'30								
Transportation Shrinkages %	1929	5.14	5.65	9.53	8.26	5.10	5.03	* .01	6.42
	Bud.'30								
	Act.'30								
Amount	1929	14 124	20 651	12 710	18 472	20 823	16 748	15 937	119 465
	Bud.'30								
	Act.'30								
Maintained Gross Profit %	1929	18.61	19.89	18.85	20.01	23.64	25.83	* 3.24	24.30
	Bud.'30								
	Act.'30								
\$ Cost of Sales and Withdrawals	1929	75 754	102 693	93 657	108 931	97 381	52 596	15 496	515 516
	Bud.'30								
	Act.'30								
Inventory (End)	1929	253 180	217 492	207 694	200 027	172 491	228 583	15 496	244 079
	Bud.'30								
	Act.'30								
Turnover (A) (Pool)	1929	3.52	5.28	5.17	6.29	5.84	3.66		6.30
	Bud.'30								
	Act.'30								
Number Merchandise Irregularities % to Tickets	1929	2 232	6 781	2 283	1 856	1 561	2 491		17 204
	Bud.'30								
	Act.'30								
Number of Tickets	1929	2.92	6.65	3.59	2.17	1.91	4.39		3.69
	Bud.'30								
	Act.'30								
Number of Tickets	1929	76 400	101 924	63 682	85 632	81 848	56 708		466 194
	Bud.'30								
	Act.'30								

\$ DETAIL OF COST OF SALES AND WITHDRAWALS

Mail Order Cost of Sales	1929	61 757	83 201	54 707	73 827	66 533	48 026	15 937	372 114
	Bud.'30								
	Act.'30								
Retail Store Withdrawals	1929	13 997	19 492	38 950	35 104	30 848	4 570	441	143 402
	Bud.'30								
	Act.'30								

*The percentages in the Semi-Annual Adjustments Column are based on Total Net Sales for the six months period.

(A). Turnover based on "Cost of Sales and Withdrawals" (line 12).

Elements shown on lines 1, 2, 12, 13, and 14 are Pool elements, all others, except line 19, are Mail Order elements.

These items are classed as "shrinkages" and are shown as an estimated percentage to net sales in line seven. In line eleven then is shown as a result the "maintained gross profit" percentage which remains after the shrinkages have been taken from the original gross profit as planned.

Turnover
Performance

In line three the estimated net sales appear and in line eighteen the cost of these sales. This sales cost is determined by subtracting the maintained gross profit mentioned above from this net sales figure. This figure plus the withdrawals at cost from the pool by the Retail Stores as shown in line nineteen gives the cost of the total regular removals from the inventory. This cost enters in in determining turnover.

It seems apparent that the beginning inventory, as determined by actual count each six months, plus purchases minus the cost of sales will result in the ending inventory and that this ending inventory becomes the beginning inventory of the following months. The turnover is the direct ratio of the amount of cost of sales and retail withdrawals to the inventory. This is discussed below.

Service

In line sixteen the percentage of merchandise irregularities to tickets handled is shown and in line seventeen the number of tickets.

Formulas

The relations discussed above may then be expressed in equations as shown on the next page.

$$\text{Turnover} = \frac{\text{Cost of sales and withdrawals (years total)}}{\text{Average Monthly beginning Inventory}}$$

$$\text{Cost of Sales} = \text{Net Sales} - \text{Maintained Gross Profit.}$$

$$\text{Maintained gross profit} = \text{Marked up gross profit} - \text{shrinkages}$$

$$\text{Beginning Inventory} + \text{purchases} - \text{cost of sales and withdrawals} = \text{Ending Inventory.}$$

Goals

It will be seen that absolute figures we may set on many of these elements may not be constant as the sales figures enter in and will cause a change as they change. Ratios may be set however as definite goals as they are not dependent on actual values. Consequently we may set up a budgeted turnover as constant and the various percentages of shrinkage, gross profit, and irregularities.

With a constant turnover it will be seen from the equation above that as the sales increase or decrease, the inventory will increase or decrease in proportion.

The real goals for the rebuying organization to aim at are therefore the budgeted turnover to control investments, budgeted shrinkage percentage to increase the gross profit and the budgeted irregularity percentage to protect the service to the customer. These goals are all ratios and are therefore practically under our control.

TURNOVER
AND RELATED
FACTORS

The merchandise budgets set very specific figures to be reached in the various items involved. The principal item is turnover however as it is the key factor among those items which may be controlled by the rebuying organization.

The estimated sales for the budget period is an essential

key figure set at the same time the turnover is set. Although we may not control the actual working out of the sales performance as time passes, nevertheless we must closely watch its variations from the budget estimates on account of the changes these variations make necessary in every budget figure expressed in dollars. The figures expressed as ratios or percentages are however unaffected.

A turnover figure is really a barometer showing just how well we are holding our investment down to the desired point inasmuch as it directly expresses the amount of the inventory as related to the sales enjoyed. It is figured always at a yearly rate. It is arrived at for the year by dividing the total yearly sales at cost by the average inventory on hand. If the turnover is desired for any shorter period for example, a month, the rate of turnover being made then is arrived at by multiplying the sales at cost for the month by twelve and dividing by the inventory had at the beginning of the month.

It can be readily seen therefore that the setting of the sales estimates and turnover figures desired really outlines the entire merchandising program in general as they are direct factors in the inventory make up, and the purchasing schedules follow as a derived result.

The general turnover figure for the Branch House is set by the Central Merchandising Office, from the viewpoint of the general merchandising policies to be observed. If the storage function of the inventory is to be cut to a minimum for some reason then a higher turnover figure reflects this hand-to-mouth buying policy.

If however, interest rates are low so that carrying charges are at the minimum and if the market is rising, then a lower turnover rate affords an opportunity to create extra net profit by purchases for storage.

The general turnover figure for the Branch House must now be broken down and a specific turnover and resultant performance figures assigned to each division. In actual practise, this figure is not actually broken down. Instead the figure for each division is built up synthetically through a consideration of the needs of the division. The matter has been worked out in this wise at the Kansas City House as an experiment and its attendant success has initiated similar procedures at the other Branches.

Each division reviews its rebuying plans by lines in order to determine how much storage and how much reserve should be provided for. This is done by reporting for each line (e.g. washgoods, toweling, oilcloth in Division 16) the actual range of stocks as expected by months. This allows for quantity purchases, carloads and other special additions to the storage which it is usual to purchase or which are planned for the ensuing budget period. The range of stock figured in this way gives us an average inventory of midway in the range for that particular line.

It requires a careful review of many points including uncertainties in customer demand and factory supply to determine the reserve or low point of the inventory. It requires a step by step analysis of the methods of specifying shipments which have proved or are likely to prove most satisfactory and most profitable in

order to establish the high points of the inventory and the rate of change. This establishes the probable range of stocks in the various months.

This range is comparatively easy to establish when quantity purchases do not enter in. In such a case a table is constructed as follows showing the number of days stock.

DAYS STOCK

	Jan.	Feb.	Mar.	Apr.	May	June	Average
High Point	45	45	45	45	45	45	
Low Point	15	15	15	15	15	15	
Average Inv.	30	30	30	30	30	30	30

A line in which quantity purchases enter in even in a regularly periodic manner does not figure out quite so easily. An example of this would show the following:

DAYS STOCK

	Jan.	Feb.	Mar.	Apr.	May	June	Average
High Point	75	45	75	45	75	45	
Low Point	45	15	45	15	45	15	
Average Inv.	60	30	60	30	60	30	
Sales %	10	15	20	25	15	15	
Weighted Av.	600	450	1200	750	900	450	43.5

It is obviously impossible to average the monthly average inventories without first weighting them according to their relative importance. It will be noticed in the table above that a line has

been added to show the percentage of sales which each month bears to the total. This forms the basis for the weighting. The percentage figure is multiplied by the average inventory for the month. This weighted average is then added to the other weighted averages and this sum divided by 100 to arrive at the six months average.

A more involved case is below.

DAYS STOCK

	Jan.	Feb.	Mar.	Apr.	May	June	Average
High Point	105	75	45	75	45	75	
Low Point	75	45	15	45	15	45	
Average Inv.	90	60	30	60	30	60	
Sales %	10	15	20	25	15	15	
Weighted Av.	900	900	600	1500	450	900	52.5

This procedure then establishes a planned average inventory for each line within the division. In order now to arrive at the needed average inventory for the entire division it becomes necessary to weight the various averages according to the relative sales importance of the line as the table below indicates.

DAYS STOCK

Line	Line Av.	Line %	Weighted Extension	Total Av.
Cutlery	30	10	300	
Ladders	45	20	900	
Washing Machines	30	25	750	
Vac. Cleaners	40	15	600	
Kitchen Ware	35	30	1 050	36.00

By this method we have now established the average inventory needed for the division. This includes the working reserve and that part of the storage we plan for in advance. It only remains now to allow for that part of the overstocks liable to be in storage which are not planned for but which experience shows may be expected.

It may be pointed out that a budget sets up a goal but not usually an ideal one. It may be classed rather as a practical one which may be approximated through efficient effort. Consequently it seems well to allow a reasonable amount for involuntary overstocks in the inventory. The fallibility of human judgment makes it impossible to avoid some carryover.

In arriving at the amount of unintentional overstock to be added to the average inventory of each division as part of the budget figure, several points are considered. Different lines vary in the degree of uncertainty in demand and therefore in the amounts we may reasonably expect to be carried over. As an aid in estimating these amounts, a study is made in the various lines as to the past overstocks of the various branch houses in comparison with our own.

Also the relative number of items to be dropped from the catalogue enters in. The dropping of these numbers from the catalogue eliminates the possibility of liquidating stocks in the regular manner. Any amounts accidentally left over then must be carried either until the most profitable liquidation may be forced or until the same item is relisted in a future catalogue.

If a forced liquidation is decided upon, then the rate and time of the liquidation must be estimated. Sometimes a delay in liquidation is advisable to realize the most profit or the least loss. The delay may be caused by a wait for the proper season or a disinclination to make a sacrifice to move a large volume when a slower rate of liquidation would make such a sacrifice unnecessary.

We now see plainly that a carryover of involuntary overstock must often be allowed for in setting our budget figure. The points we have just discussed must all be considered in deciding just how much our budget should allow for this factor.

The turnover figure calculated synthetically as shown in the above tables is used in connection with the estimated budget sales to arrive at an average inventory figure. This figure is then increased by the overstock allowance as figured above and the resultant figure is the average inventory to be budgeted for the six months period.

Then the problem arises of assigning an inventory figure for the first of each month so that the average of the six of them will equal this average figure arrived at as above. This is done usually by adjusting and readjusting the average figures until they seem to conform to the general scheme of purchasing month by month which experience has shown usually holds. The monthly budgeted average inventories are then applied against the budgeted sales as set and the monthly turnover figures result.

So many chances exist for our turnover figure to be disturbed that it becomes imperative for a continuous method of checking

to be placed on the inventory. A barometer has been provided in the form of the Purchase allotment system to accomplish this check up. It provides that the current sales trend be estimated and on the basis of this a new purchase figure for the month set up which if met would result in the budgeted turnovers also being met. This new purchase figure is called the Purchase Allotment.

In the Purchase Allotment system therefore this Purchase Allotment for the month is subtracted from as purchases are made and a daily "Balance to Buy" is shown. This balance to buy figure gives us then through its trend what we may expect as to the size of the inventory and therefore as to the performance arrived at on turnover.

A rapid decrease of the balance to buy figure beyond its usual rate of decline augurs an increase in purchasing which is excessive and a consequent increase in inventory. A slow decrease in the balance to buy might indicate a dangerous slowness in placing orders. In either case an observation of the condition gives opportunity for corrective action to be taken.

A monthly report shows the turnover actually accomplished and affords a means of comparison with the other House performance.

SERVICE

A certain amount of out-of-stock irregularities may be reasonably expected even with highly efficient rebuying work. The reasons for this have been brought out previously. The amount to be expected depends to some extent on the turnover aimed at. A policy of small relative inventories will naturally raise the irre-

regularity figure. It seems fairly apparent then that the irregularity or service budget figure is largely one which is dictated through policy considerations. It is to be expected therefore that the general budget figure be set in the General Merchandising Office. The Branch House Merchandising Office receives and then breaks this figure down for distribution between the different divisions.

Construction
of Budget
Figures

On account of the variation in merchandising conditions between divisions the break down is accomplished by a reference to each division's turnover and also past service records not only in the branch House in question but in the other houses. These comparisons are made in the Merchandising Office in conjunction with the Superintendent of the Division concerned and the divisional budget figure for irregularities agreed upon by months. This figure is expressed in percentage of the number of irregularities to the number of customers tickets.

Comparison
with
Performance

These figures appear of course on reports which form the basis for comparison and corrective action. Weekly and monthly irregularity reports are made which show each division's position in comparison with the Budget. Percentages which are too high indicate inefficiency in the rebuying function or else exceptional circumstances in connection with either supply or demand. High irregularities should mean a corresponding drop in the inventories. Otherwise, a lack of balance in the inventory is indicated. In any case a cue is given for corrective action to be applied through an improvement either in rebuying efficiency or in the factory conditions or both.

SHRINKAGE

The nature of shrinkage is such that the question of policy does not enter into either the setting of the budget figure or the attempts to equal it. It has been previously pointed out that shrinkages occur from either inefficient work, unavoidable errors, or from unfortunate accidents. In any case however the goal should be toward constantly diminishing shrinkages at least in so far as inefficiencies may be eliminated.

Our attitude in setting the shrinkage figures, both general ones and divisional ones, should be certainly that of encouraging constant improvement. Certain shrinkages are nearly inevitable when certain conditions prevail. Attention must be directed therefore toward the prevention of these conditions.

We are interested here primarily in the shrinkage elements which touch merchandising. We have had certain of these elements with us for so long and in such proportions that there is a real danger of taking them too much for granted. The shrinkage budget figures should then be constructed so as to direct every possible effort toward the reduction of those elements which are largely under our control.

Construction
of
Budget
Figures

The shrinkage figure to be budgeted is built up from the various elements as spread out on the shrinkage analysis or work sheet. A facsimile of one of these sheets is shown.

On this work sheet appear the actual shrinkages for the two preceding years. On a standard shrinkage analysis report are shown the performances by elements of the other houses. A

Divisional Shrinkage Analysis Budget
Fall and Winter 1930

Fill in Actual 1928 and 1929
figures from your 9 M O Reports

House K. C.
Div.

	1928 Actual		1929 Actual		1930 Estimated	
Net Sales						
<u>Shrinkages</u>		%		%		%
<u>Caused by Overstock Condition:</u>						
<u>Losses on:</u>						
Job Sales - - - - -						
Transfers to Other Houses - -						
Transfers to Dept. Stores - -						
Transfers to Chain Stores - -						
Bargain Room Sales - - - - -						
Sub-Total - - - - -						
<u>Caused by Low Stocks:</u>						
Pick-up Losses - - - - -						
Substitution Losses - - - - -						
Excess Transportation - - - - -						
Stock Order H'dling Chgs - - -						
Sub-Total - - - - -						
<u>Caused by Unsatisfactory Mdse:</u>						
Losses on Returns - - - - -						
Reconditioning - - - - -						
Sales Allowances - - - - -						
Sub-Total - - - - -						
<u>Miscellaneous Causes:</u>						
Employees Discount - - - - -						
Stock Losses - - - - -						
Miscellaneous Losses - - - - -						
Stock Order Corrections - - - -						
Sub-Total - - - - -						
Total Actual Shrinkages - - -						

double comparison is then possible and is carefully made. In connection with these comparisons should be considered also any change in the current or future merchandising situation which would modify the goal.

After weighing all the factors both past, present, and probable future, a percentage is finally set for each element as shown and a grand total supplies our total shrinkage figure. If this total is plainly too easy, or too hard, then a reconsideration of the elements will show where a goal has been set out of line with reasonable progress.

Particular attention should be paid to the two groups of elements "Losses from Overstock" and "Losses from Understock", as these are directly concerned with incorrect inventory maintenance. From the rebuying standpoint there is more opportunity for improvement here than in the other groups.

It should be pointed out that a certain distinct loss results from overstock which is not included among the shrinkage elements. This is the interest charge on the entire amount of overstock. The present method of accounting shows as an expense the interest on the entire inventory including both overstock and the reserve which is actually of current use. There is a growing feeling that a truer picture would segregate the interest on the overstock portion of the inventory and show it as a shrinkage from gross profit. This method would have the advantage of showing the actual offset for any extra profit markup on account of overstock purposely created. It would also

show periodically the actual loss involved in holding merchandise in storage regardless of how accumulated.

The budgeting of this additional element as shrinkage would direct attention to it and make easier a censorship as to the profit of purchasing for storage or holding certain lines in storage.

Comparison
with
Performance

Monthly statistical reports are received by the various divisions which shows among other items the shrinkage total for the month in comparison with the budget and the previous years performance. The work sheets from which this total is made up are also available and shows the amount of each element actually charged to shrinkage for the month. A facsimile of this report is shown.

Certainly these two reports make it possible to follow with comparative exactitude the shrinkage performances so that possible corrective action may be taken quickly.

IV PURCHASING (REBUYING)

GENERAL VIEW OF PROCEDURE USED TO OBTAIN INVENTORY ENDS DESIRED

CONTROL
BY
UNITS

We have seen that the Rebuying Organization has the definite responsibility of maintaining the proper level of inventory. However, we have considered it so far in a collective sort of way almost entirely. Our budget and performance figures are dollar and cent totals and represent the divisional performance as a whole. While these totals must be considered when viewing the results of the rebuying work which is done, the work itself must be concerned with individual items.

We cannot dismiss the problem of specifying purchase orders when we have decided on our general policies and set our budgeted goals. The work has just started. The problem remains of translating these general performance figures into specific and definite action on individual items. We cannot buy in general terms. We must specify definite quantities and shipping dates on individual units. What we might call our control in dollars when looking at general performances must be changed into Control by Units. In our large semi-annual catalogue we have something over thirty thousand individual items each of which must be handled on its own respective merits.

The problem then resolves itself into keeping stock properly on each unit handled. If this is done then the totals will care for themselves. To properly organize this responsibility the units are divided into various groups with a "Rebuyer" for each group responsible for maintaining stock on each item in his group.

STOCK
RECORDS

Definite results cannot be obtained unless the action taken is based on definite information. To this end "Stock Records" are kept which are as the name indicates, records of the movement of the individual units of stock. Although it is true that much of the rebuyers work deals in sales prophecy which is of course somewhat indefinite, nevertheless this element of vagueness makes it all the more necessary for all elements possible to be as definite as possible. Stock Records constitute a very definite basis for the Rebuyers work.

It is not the intention in this connection to describe the procedure a Rebuyer should use in specifying purchase orders as this will be taken up later. Any mention of it will serve merely to aid in the description of the function performed by the stock records.

It has been brought out that the rebuyer's chief function is to properly maintain the stocks of merchandise in the inventory. It seems evident that in order to do this he must have constant information concerning the actual stock condition of the various items in the inventory. To this end counts are made at regular intervals to determine the exact quantities in stock.

With the changes in the stock condition thoroughly in mind at all times it becomes necessary for the rebuyer to replenish the stock from time to time in order to maintain it at the proper level. He does this of course by placing orders for additional quantities. In order to determine the quantities to order he

must naturally estimate what the demand in the future is to be.

It has been proven that past experience is a valuable guide in making this estimate. Although other factors also must be considered, nevertheless, the demand on the article during the corresponding period of the previous year shows not only the seasonal trend but also furnishes a satisfactory basis as to actual quantities. This basis is usually modified by a consideration of the current trend which the sales have taken.

It seems apparent then that the rebuyer must have readily available the information detailed above which is so necessary to his work of estimating future sales and keeping well balanced stocks at proper levels. Consequently, stock records are kept to reveal the actual condition of the stock as to quantity and also the actual demand not only in the near past but in various corresponding periods of the previous year.

A Stock Record Sheet is provided for each separate unit of stock keeping including sizes and colors and on each sheet is shown the record of stock counts and all of the sales history necessary for the rebuyer's use. The form is designed so that four counts per month may be recorded. In many lines of merchandise it is deemed unnecessary to count but twice per month. Generally speaking, however, the oftener the counts the more efficient is the rebuying as large unexpected changes in the sales volume may be detected more quickly and proper action taken. This action may move along two possible general lines. First, any orders

already existing but undelivered may be increased in quantity or rushed in delivery when the sales have proved unexpectedly large. Second, any such orders may be reduced in quantity or deferred in delivery when the sales have proved unexpectedly small.

The necessity for such action indicates the need in the Stock Records for a record of orders placed and delivery specifications as well as information on "when" and "if" shipments have actually left the Source of Supply. This information is provided for, - partly on the Stock Record Sheet form - and partly on the supplementary Cost Record or Invoice Listing.

Additional purchase orders must be placed from time to time and the sales estimates necessary in this connection require sales data as mentioned previously. The current demand from week to week and month to month must be figured and posted so as to be quickly available. Roughly speaking, this is figured for any period by adding the amount on hand at the beginning of the period to the receipts during the period and subtracting the final count. This indicates the need also for a record of the receipts on the Stock Record Sheet form; and so a space is provided for this purpose.

It should be mentioned in this connection that there may be some withdrawals from stock which should not be included in the demand. These are returns to factories, shipments to other houses, transfers to other numbers for the purpose of substituting or job sales. Inasmuch as the total demand is figured by the reduction in the amount on hand for each period, it is clear that these

cases just cited must be deducted in order to give the proper demand figure. Consequently, columns are provided on the Stock Record Sheet for a record of such quantities.

In the manner described above the rebuyer is provided with a detailed picture of the activity on each item which has prevailed since the beginning of the current budget period, i.e., January first or July first.

It has been brought out, however, that he should be familiar not only with the demand which is current but also that of last year in the corresponding period. Accordingly, the Stock Record Sheet provides spaces wherein the recapitulations of the demand are recorded for the previous year by months.

The placing of purchase orders involves not only a consideration of our needs but also knowledge concerning the Source of Supply and the various elements entering into the agreement which the Buying Organization has made with it. All of this information is sent to the rebuying from the buying offices on a form which is titled the "Record of Cost and Source Data". In addition to designating the Source and cost, this form shows all other information necessary to placing and writing a purchase order such as weight, terms, discounts, minimum quantities for which an order will be accepted, standard packages, minimum time required by the source in which to deliver, information in regard to routing, and suggested quantities to purchase.

Some of these details also appear on the Stock Record Sheet; in fact, as many as are usually necessary to the rebuyer in specifying his order. The others, being necessary only for occasional reference or for the use of the order writer, are not transferred to the Stock Record Sheet.

The foregoing paragraphs show that the function of the Stock Records is a fundamental one. They constitute the basis on which the rebuyer's activities rest and enable him to work in a definite way in maintaining his stocks.

NEED
FOR
DEFINITE
AND
SYSTEMATIC
PROCEDURE

In the past there has been a more or less of a traditional air of mystery around this rebuying work. It has been admittedly indefinite in many respects and for a very good reason. In purchasing for future demand we certainly are dealing in futures. We must forecast what will happen to our demand for each item tomorrow, next week, next month, next quarter or in some cases even next season. Inasmuch as we are "neither prophets, nor sons of prophets" we tend to feel at once that the placing of orders is bound to be indefinite and the results uncertain.

As a result the rebuying work has naturally drifted into a haze of vagueness. It has been regarded as next to impossible to set up rules to be followed, as we do in our various operating and clerical procedures. Consequently it has been believed in many quarters that a rebuyer can function properly only through long experience and certainly never through definite rules. As a further consequence of this idea that rebuying must be necessarily indefinite comes the danger of an attitude being

taken that "one persons guess is as good as anothers" and that attempt at method is wasted.

It is high time indeed that rebuying work be torn apart to see how the wheels go around and to see if those wheels do not have definite relations to one another so that some Principles of Rebuying might be established. The fact that at least part of the elements worked with by the rebuyer are indefinite make it all the more imperative that if any elements are capable of methodical and definite handling that they be so recognized and set up.

We may decide on good merchandising policies which are definite. We may set logical budget figures which are definite. Yet we find ourselves stopped in a large degree from definiteness in translating those policies and those figures into actual guides for the merchandising of the individual items.

If we wish to speed up the handling of our customers orders through all of our branch houses, we can send out standard instructions in terms which are plainly understood. We speak of "schedule", "staggered hours", "new conveyor service" and so on. Therefore identical procedures can be set up and followed and the results as planned may be realized. Operating factors have consequently been well defined and subject to discussion and improvement. The Operating arm of the business has therefore made rapid strides. Unfortunately the same cannot be said of our rebuying. Being of a less finite nature the methods for improvement have been less readily apparent. For instance there has been

developed no universal language in our merchandising to the degree which is desirable. In fact there has been, it might be said, very little language at all. This makes it difficult indeed for the General Merchandising Office, the Branch Merchandising Office or even the Division Superintendent to issue other than very general instructions as to what manipulation of the inventory is desired.

This lack of language is not ascribable to a dearth of terms which might be originated but instead to a dearth in the definite cataloging of rebuying factors and the formation of rebuying rules or principles to be followed. Names have not been originated because there has been little to name.

A new rebuyer being trained has not been told in very many cases HOW he should work. He has gained his knowledge through experience which has been costly to the company. He has been watched by those with more experience as closely as possible but at that, the method of "trial and error" is slow and expensive. Furthermore, his experience breaks down when new conditions obtain.

A rebuyer who works by means of experience gained while sales were increasing may finally do a fairly good job as long as sales have a continual moderate rate of increase. However, let that increase level out or dwindle into a decrease and he finds it impossible to readjust his experience to the new conditions immediately and difficult even after a reasonable lapse of time.

Not only then do those who dictate the policies find it difficult to issue definite instructions, but the rebuyers themselves many times have not been able to figure out just what they are to do and how they are to do it.

Observation indicates that it is the lack of definiteness in method of thought and the lack of systematic procedure which lies at the bottom of the trouble as well as a lack of realization as to what the governing factors are and the relations between those factors.

Tremendous losses are caused so easily and quickly through ungoverned and unmethodical rebuying that it becomes imperative to adopt any measures which will tend to increase rebuying efficiency.

It certainly becomes worth while therefore to search out those factors used in rebuying which do admit definite handling and to describe what definite relations exist between them and also to set up definite rules and principles to be used. Furthermore it promises much if that admittedly indefinite angle of rebuying which has to do with estimates be kept into as definite channels as possible.

Then finally if with the factors governing rebuying clearly revealed and their definite relations set forth, the rebuying language be enriched with terms describing these factors and relations so we may talk definitely about them, then will the mys-

tifying haze be rolled away and rebuying lifted to more efficient levels.

It is the aim of the remainder of our discussion to discover and set forth in suggestive terms definite practises which are possible and profitable.

Rebuy work divides itself into two distinct parts, first the estimating of future demands and second the construction of the purchase order through the use of these estimates. It is very important that the two not be confused with each other as they must be considered independently if we are to take advantage of definite methods in our work.

It is certainly obvious that what our sales will be for any future period is entirely independent of what our stock condition is. Our demand which depends on catalogue presentation, style trends, general trade conditions and similar factors will certainly materialize unchanged by any decision we may make concerning how we manipulate our inventory. In the next chapter will be considered in detail the elements that enter into estimating this demand. It is enough in this connection to make the point that the factors which govern the judgement in estimating demand are not the factors which enter into determining whether or not to place an order and if so, how much to buy and when to have the shipment made.

As mentioned before, the estimates themselves are bound to

be more or less indefinite. However, the use of these estimates in constructing a purchase order can and should be according to very definite rules. These will be discussed thoroughly in another chapter.

Very definite goals exist to be striven toward. We must then have a definite way of directing our efforts toward them. A change in goals should mean a change in some details of effort. If however, no definite methods are used in constructing orders, no satisfactory means exist for applying changes in policy as expressed in budget changes.

Too much emphasis cannot be placed on the necessity of regarding these two phases of the work independently and divorcing the handling of their respective procedures. The fact that the two dovetail very closely makes it all the more important to clearly distinguish the line of separation and then to separate them. It should be repeated again that the demand estimates should be made entirely independent of the needs of the stock and that after the estimates are made the order should be constructed according to certain set rules. These rules are formed so that the various pertinent factors which concern order construction are definitely taken care of. These factors include the time required for the order to reach the factory, the criterion time or time required by the factory, the time for the merchandise to be in transit, the stock cushion and the regular coverage period.

This method of approach makes it possible to definitely modify certain factors and cause a desired effect. These rules then

make it possible to aim definitely at lower or higher turnovers as the necessity may dictate.

In the chapter immediately following, the factors influencing the demand estimates will be discussed and in the succeeding one the factors which determine how purchase orders should be constructed. The rules and procedures as described are being used at Kansas City in an experimental way with very beneficial results.

V. PURCHASING (REBUYING)-

ESTIMATING FUTURE DEMANDS

GENERAL
RELATION
BETWEEN
FACTORS

We cannot escape the necessity of estimating what our customers will order from us. It requires time to obtain merchandise and therefore we must estimate our needs in advance.

It becomes necessary then to pry into the minds of our customers, as it were, to determine how many of this and how many of that will be ordered and when. This of course seems manifestly impossible.

PREVIOUS
YEARS
SALES
A
BASIS

However we may come surprisingly close thanks to the law of averages. The functioning of this law brings on the average about the same sales results from year to year if the conditions are static. However, the conditions are not static and some sales changes will result. An estimate of these probable changes may be made based on the changes in the pertinent factors which occur from one year to the next. In this way Sales History forms a satisfactory basis for estimates.

Of course the broader the field applied to, the better does the law of averages function owing to the larger volume involved. Consequently the estimates of the total sales for the company will usually be closer to actual performance than the estimates for an individual House as the local House is subject to unexpected territorial peculiarities which would average out over the whole country.

Likewise within the Branch House the individual divisional

estimates become even less accurate than the total House estimates. For the same reason the sales on individual items are less responsive to average performances than anything else as the sales volume is more limited. Then carrying the matter to its ultimate conclusion those individual items whose sales volume is the smallest are the less subject to accurate sales estimates.

We are interested primarily in estimating the demand on individual items. Although we find, as pointed out above, that our dependence on previous sales records may not be too strong, nevertheless some basis of calculation must be had and certainly the previous years sales figures at least give us a point of departure. Thus we will get at least the general level of probable demand.

Some appreciation of this assistance will be had when an entirely new item without any available sales History appears. In such a case a figure must be fabricated almost from thin air. In comparison with this any item with sales History becomes almost simple of estimation.

Last year's actual sales figures become then the practical basis for our this year's estimates. It seems evident that these sales figures and estimates must be divided into periods so a turnover of stock may be arranged for. A previous chapter described how these sales records were made available to the "rebuyer" through the maintenance of stock records.

These sales figures for the corresponding periods last year are termed "Corresponding Sales". These corresponding sales per-

form two functions. First, they form a sales curve showing the variations in seasonal demand from month to month. Second, they furnish absolute figures which fix the general sales level which might be expected. Both of these functions are important and are used definitely as will be described later in this chapter.

"SALES CHANGE"
FACTORS
EFFECT
CHANGE

We know of course that sales history will not repeat itself. We must use it therefore as more or less of a locator of the general level along which we should find our sales. From this general level established through sales figures we may then vary one way or the other as other factors which produce changes in sales may dictate.

These "sales change" factors embrace anything which tends to change the demand from what it was last year. It is evidently necessary then to understand these factors thoroughly and what their probable effect is when they exist. After this we have the problem of recognizing their existence and measuring their probable effect on last years figures. We will then consider the nature of these "Sales Change" factors in the paragraphs following.

Catalogue
Publicity

Inasmuch as our catalogue is our salesman we must expect changes in connection with the catalogue to contribute important changes in the demand from one year to the next.

The comparative number of catalogues distributed should logically affect the demand more or less directly. However the ratio of increase or decrease in demand will hardly be in pro-

portion to the increase or decrease in circulation. This is simply because the last increment put on or taken off is generally the least productive of sales.

Where a decision is reached to curtail the circulation on any particular catalogue this curtailment is not accomplished blindly. The least productive sections of territory are selected to be dropped from the circulation list. Therefore the demand will drop a less percentage than the circulation.

Similarly when more extensive cultivation of the sales field is decided upon there is not much basis for a hope that the sales per catalogue issued will be as high in the new section of the field as in the old. It is obvious that the best territory will already have been circulated and that only the poorer sections are available. Consequently with the increase in circulation we may not expect to find a general increase in demand equal to it in percentage.

The changes in catalogue circulation hardly affect the demand of individual items as much as changes within the catalogue itself. The copy and layout is carefully planned to have a certain effect on the customer. In our effort to estimate demand we find it important to try to appreciate and measure this effect on the customer.

Experience has shown that good publicity leaves as little to the imagination as possible. On a black and white page we may list a silk very plainly, describe it minutely, and give a list

of the colors in which it may be obtained. A certain volume of sales will result. In our next catalogue, if we list this silk on the color enamel page so that the actual colors are shown the sales will be increased very materially. The color page is more attractive, strikes and holds the attention and leaves little for the customer to imagine concerning the number in question.

The application of color to newsprint paper is rather a new development. It is not so attractive and does not yet reproduce colors quite so well as the regular color enamel. So the sales appeal is not so strong although naturally stronger than the black and white.

The production of sales by color newsprint and color enamel is of course related to the increased cost over the black and white page. A color listing must certainly more than pay for itself. Consequently we may not expect an indiscriminate drift to the color pages. Items which are utilitarian in nature would naturally not respond to color treatment regardless of any color they might have.

When the color treatment changes from one catalogue to another we may certainly expect changes in the demand to correspond. This is an important factor which then must be analyzed in connection with every item.

General rules cannot be formulated as to just how much increase or decrease a change to color or the reverse may cause. This will vary with different lines and must be determined by sales comparisons of previous similar changes. In some lines it

has apparently caused increases of from fifty percent to several hundred percent. However it is bound to be somewhat of an estimate inasmuch as it becomes difficult to allot increases or decreases in demand in an accurate way to the various factors involved. Each case must therefore be determined on its own merits.

Constant effort is exerted to improve the appeal of the copy and the illustration. If a more adequate and vivid description of the item appears in a new catalogue a stronger sales appeal is the result. Sometimes an illustration in the previous catalogue was not good and perhaps did not do justice to it. A change to a good illustration will affect the sales favorably.

The reverse must be watched as well. Poor illustrations or less adequate copy should be noted as soon as they appear and the proper reductions in demand estimates made.

Changes in location and space must also be considered. If the space is increased the resulting increased publicity cost is incurred solely to accomplish an increased sale. Increased space attracts more attention naturally and allows a more complete sales copy.

A change in location on the page may affect the demand. The top and outside edge of the page are considered as the most advantageous positions. Location in the catalogue is not so important, with the exception of the covers. Many customers will miss seeing many items on the various pages. Very few however will miss seeing any item illustrated on the front or back cover. A change to such

a position should result in a decided increase in sales.

On various lines of merchandise one illustration in color is made to do for an item where several colors are involved. Usually as a result the color illustrated will take more than its natural share of the sales. A change then in this illustration from one color to another will increase and decrease the sales of the two colors involved.

Sale
Book
Listings

A regular general catalogue item is relisted in a sale book for the sole purpose of causing an increased volume of sale. This is caused partly by the impetus the issuance of a new catalogue gives and partly by the reduction in prices. At any rate this sale book influence must not be ignored.

If last year the item appeared in the midsummer sale book and this year it is not to so appear, we may definitely count on a reduction in sales during the sale period. If the conditions are reversed we may expect an increase in sales.

Just how much difference the sale book listing makes in the demand may not be generalized upon. The same may be said about that as was said about the influence of color pages - each case must be decided on its own merits.

Internal
Competitive
Changes

Competition exists within the catalogue itself and purposefully so. Part of the inducements offered to customers to deal with us lie in the wide range of selection available to them. This range of selection may embrace different styles, colors or brands

in the same price levels or may merely consist of different qualities and prices from which to choose.

In either case the various items listed which answer the same general purpose definitely compete with each other in the regard of the customer. The sales then split among them according to the appeal of the items and desires of the customers. If we merely add another style or another color to the line already shown we clearly do not add an extra amount of demand equal to the average already existing. The sales for this new item come partly from customers who would not have ordered anything else and partly from those who would otherwise have merely selected one of the other items in the line.

We learn then that the addition of new items to a line already well represented will usually cut down the sales of certain of the older items. Conversely the removal of some competitive item will tend to increase the sales on the remainder.

There are more cases of internal catalogue competition than we many times imagine, and in connection with them changes happen often. For instance we may list in one catalogue a white finished refrigerator. In the next catalogue we may not only list the same white refrigerator, but also the same refrigerator in gray finish.

The gray refrigerator is now competing with the white and part of the sales normally going to the white will drift to the gray. The introduction of a competitive item like this calls

for a reduction in sales on the originally listed item.

Changes in internal competition are very numerous and must be watched carefully and the proper allowance in demand made.

Our external competition comes both from other mail order firms and local merchants. We find several mail order catalogues in one home as a usual thing. Most of the mail order customers are impartial in their judgement. They are after the most for the money, service of course considered. Consequently they provide themselves with other catalogues than ours and compare the items and prices when the occasion arises.

For this reason if we are underpriced by a prominent competitor whose circulation is as complete as ours, we find the sales situation on that particular item substantially affected. Our competitive position in that respect should then remain prominently in the rebuyers attention so that the proper allowance may be made for it. Many times a very small price difference will have no effect as the customer may include the item in an order for other merchandise which is competitive. He may do this rather than trouble to write another order or he may do this to save transportation charges.

However in general, the loss of a competitive position will have some effect on the sales.

The local merchants give us our strongest competition as they do such an overwhelmingly large percent of the total business done in the country. Our price levels have been lower than

External
Competitive
Changes

theirs however. This price advantage has been the main reason for our large volume of trade.

Of late years however the spread of the chain stores and the consequent increase in efficiency of the independents has narrowed our price advantage or eliminated it in certain spots. This necessitates a new efficiency on our part so that a price advantage be maintained.

At times however the local price levels on certain lines may dip to meet ours. This is particularly true when distress stocks are thrown on the market and low prices become suddenly easy to maintain in Retail Stores. Unfortunately our catalogue prices cannot change themselves and we are unable to issue a new catalogue immediately. Consequently a loss in business is bound to result.

Sometimes through reduction of factory cost or unsettled market conditions certain items may reduce to much lower price levels thus opening up new fields of customer demand. The constantly decreasing prices of our Gyrator Washer makes a good example. As the price dropped, people who never before were able to buy a really high class washing machine came into the market for one. The lowering prices and increasing demand on Radio form another instance of this.

Changes in company policy may effect broad changes in the demand. For instance the announcement in July 1929 that the postage and freight would be prepaid to customers brought a large increase in business in all lines practically overnight.

Major
Changes
in
Price
Levels

Changes
in
Company
Policy

The added number of items placed on the time payment plan has also added materially to the sales of these items.

Changes in either these points or other of like broad application should bring corresponding alterations in the demand estimates.

Broad
Changes
in
Customer
Demand

There are certain sweeping changes in demand which are the results of general changes in the buying desires of the public. Sometimes it is a change in fashion which is responsible and sometimes the change is more soundly founded in industrial or scientific development.

Fashion changes being largely formed through whim and fancy are exceedingly hard to forecast. Further even when the fashion change has been recognized by the manufacturers it is difficult to foretell how completely it will be accepted by the general trade.

This fashion influence while applying mostly to ready-to-wear clothing makes itself felt along other lines as well. Color in the kitchen all the way from the stove and kitchen cabinet to the cutlery responds in much the same way. Fads of various kinds are closely related and must be watched closely as the demand for fad items dies as quickly as it is born.

Broad changes arising from industrial and scientific developments are sounder of foundation. Developments are usually both gradual and logical. Consequently they may be foreseen and gauged fairly well by the wide awake merchant.

The last five years has seen a pronounced drift from home dressmaking to ready-to-wear. The ready-to-wear industry has lowered its cost and improved its product until there is considerably less inducement for the woman at home to purchase materials and fashion her own clothes. This has meant a steadily decreasing demand for all yard goods, silks, rayons, cottons and woollens.

A splendid example of change brought about by scientific advancement lies in Radio. The drift in demand from battery operated sets to electric ones has been swift and is limited mostly by the availability of electricity. The drift was plainly foreseen and was rather easily followed. Consequently an adjustment in demand estimates is made with success.

However, scientific improvement in a general line such as radio, is much more easily kept track of than changes in isolated items. For instance the Gyration type washer when introduced practically killed the demand overnight on the oscillator, cylinder and suction type machines which had flourished for so long. This was rather unexpected and left an overstock of machines to be worked out.

In order to be aware of impending general changes in customer demand it becomes necessary then to follow scientific and industrial developments closely as well as the more unstable variations of the fashion or fad influenced lines.

It might be thought unnecessary to mention the necessity of gauging the general trade or prosperity conditions when attempting to decide whether we will sell more or less than last year as it

so ostensibly is bound up with our volume of business. It has been a rather general thought however that the mail order business suffers from adverse conditions in prosperity less in proportion than the local merchant. In times of financial stringency it becomes doubly necessary for the potential customer to save at every point. Consequently, granted the mail order prices are lower, there may be an increased tendency toward mail order buying.

However that may be when crop and general trade conditions are unsatisfactory we may look for a general drop in demand.

Seasonal
Discrepan-
cies

Other reasons for modification of last years sales figures from a general standpoint lie in the lack of chronological coincidence of the seasons. For instance Easter varies considerably from year to year in its date. An increase in the sales of many items occurred early in March 1929, inasmuch as Easter came toward the end of that month. The corresponding increase in sales in 1930 did not come early in March but instead early in April as Easter was nearly a month later. It is evident then that a blind dependence on 1929 figures would have resulted in very incorrect estimates.

Similarly we find certain items which depend on changes in the weather for increases in demand rather than on chronology. Raincoats and rubbers sell when the bad weather occurs, not before. Fans and bathing suits alike await the warm weather. Overshoes and storm clothing are not demanded until the snow storms arrive.

In this factor of the lack of weather uniformity from year to

year we have a difficult problem to solve. Consequently we cannot completely avoid trouble. The only course of action lies along the line of average performance. This requires that we must judge carefully when on the average the required change in weather is due and estimate accordingly. The last years figures must then be shifted to meet the condition which has obtained in that line as far as chronological periods are concerned.

SUMMARY
OF GENERAL
RELATION
BETWEEN
FACTORS

We have seen that the law of averages gives us a general similarity in sales performance from year to year. The similarity ends however with being general owing to the many "Sales Change" factors which are operating toward changing them. Experience has proven however that on the average the previous years figures will locate the general level of sales we may expect. The direction and degree of variation from this general level is caused rather definitely through the specific effect of various of the "Sales Change" factors which apply. Intelligent attention to these factors should make possible either a logical forecast of the sales changes probable or an explanation or corroboration of sales changes already definitely under way.

USE OF
FACTORS IN
ESTIMATING

It is perfectly obvious that some of our estimates must be made prior to the time when the sales actually start in the new season or from the new catalogue. Then as the season wears on we continue to make estimates as before but with the difference that part of the sales lie behind us and are available to use as an indication of their future trend.

In
Advance
of the
Season-
General
Ratio
Method

We will discuss first the creation of estimates in advance of the season. We are faced with this problem before each catalogue and before each trade season. It is readily apparent that previous sales tendencies may not be blindly projected into the new season inasmuch as conditions are usually changed. We are then dependent entirely on sales figures from last year and an application against them of the sales change factors which are pertinent.

It is necessary therefore to first carefully examine every sales change factor which could effect the item or line in question. A general ratio figure must then be arrived at which expresses the probable ratio of the future sales this year to the corresponding sales of last year. For example it may be decided that owing to certain changes in the factors we should expect 25% more sales this year than last.

Naturally the next step is to determine exactly what last years sales were in the period for which we wish to make estimates. These figures are easily procured from stock record books.

The percent of increase or decrease as determined above is applied to these figures, and we have as a result our estimates for the desired period.

The application of this General Ratio Method as stated should be limited to pre-season estimates inasmuch as after the season starts we have more assistance in the way of current figures. It is also limited to those items or lines for which we have last

years sale figures either on the same merchandise or on something which is similar.

An example of pre-season estimating is shown through the accompanying table.

LINE - ELECTRIC FANS - SALES CHANGE RATIO 125%				
Cat. No.		May	June	July
950	Last Year	100	160	80
	Estimate	125	200	100
952	Last Year	40	60	36
	Estimate	50	75	45

After
Start
of
Season-
Current
Comparison
Method

After the season has been fairly started or a new catalogue has been out for perhaps a month we find it possible to put the estimating on a much sounder basis than prior to the season.

In order to avail ourselves of the aid of last years figures we still find it necessary to establish a sales change Ratio. Before the season opened we considered the force of the sales change factors necessarily from an angle of opinion only. Now however we have available sales figures which are the results of the operation of those factors. Briefly then we have a tangible indication of what changes the sales change factors did effect.

These factors are still responsible for the changes as before. However where before the season we hypothecated a ratio now we have an actual ratio. The actual ratio is the ratio of this seasons sales to date to the sales for the same period last year.

In this percentage of increase or decrease we should find reflected the effect of the various changes in the "Sales Change" factors.

When the period "to-date" is short we may not rely on the ratio too much as we wish to use the average effect of the factors and the average is obtained best over a longer period of time.

The actual process of estimation through this current comparison method may be best explained in connection with the accompanying table.

Item - GYRATOR WASHER						
Cat. No.	Sales to Date			Sept.	Oct.	Nov.
	Current	Corresp.	Ratio			
1102	100	125	80%	Last Yr. 200 Est.	300	250

We see in this example that so far in the new fall catalogue we are selling only 80% of last years corresponding figures. Can we assume then that we will continue to sell 80% of last years figures during the future months in question. This 80% ratio is the product of certain definite changes in our sales factors. We must be certain that the changes which effected the 20% decrease will still continue to obtain in the future.

We are not justified in merely assuming that the 80% figure will hold. Some of our sales change factors remain the same throughout the life of the catalogue, while others may change at any time. For example, the prepaid plan was announced shortly after

July 1st, 1929. Inasmuch as this plan is in effect in 1930 some consequent increases over 1929 spring sales should be experienced. However, we could not take such a ratio of increase as developed in May and apply it against last years figures for July because the same relative conditions would not obtain.

Consequently it becomes absolutely essential to carefully check the Current Comparison Ratio against the sales change factors and answer the question - Why did the sales act this way? If the apparent change in factors supports the arithmetical ratio, then we are justified in applying this ratio against the future corresponding sales. It must be remembered though that the same relation in conditions between this year and last must exist in the future periods being estimated as existed in the period to date.

In this connection particular care must be taken to avoid mixing catalogue periods. For instance the todate figure this year might include the midwinter sales book as well as the general catalogue while last years figures did not include such an extra sale. Of course a large increase is shown. This ratio of increase could be used to forecast sales during the sales book. However it very clearly does not represent the ratio of the general catalogue this year to the general catalogue last year.

This method we are discussing is widely used in rebuying. Therefore we cannot make too clear the fact that two rules must be observed. First - the arithmetical ratio arrived at should be

supported by the conclusions drawn from an examination of the sales change factors. Second - the same relative conditions which developed the ratio must continue through the period in question.

We will discuss the first rule further. If the current comparison ratio is not well supported by a consideration of all factors, it may be arbitrarily modified to a more logical figure and probably should be. As an example we may develop a ratio of 150% and yet find little reason for such an increase after a thorough consideration of all the sales change factors discussed previously. In such a case the ratio should probably be arbitrarily reduced to 125% on the supposition that the sales increase of 50% was the nature of a freak and would not continue.

This is illustrated in the table which follows:

Item - Unbleached Muslin							
Cat. No.	Sales to Date				Sept.	Oct.	Nov.
	Curr.	Corres.	Ratio				
7115	3000	2000	150%	Last Yr.	4000	6000	4800
			125%	Est.	5000	7500	6000

The second rule was stated as follows: "The same relative conditions which developed the ratio must continue through the period in question". Sometimes the period we are covering extends over a change in catalogues. In such a case one basis of estimating should be used for one part of the period and another for the rest.

This may be illustrated with an item which is in both the general spring book and the Mid-Summer Sale Book. The sale book is in full effect about June 1st. In our example we find it necessary to estimate for April, May and June.

Item - Work Shoe							
Cat. No.	Sales to Date			Ratio	Apr.	May	June
	Curr.	Carres.					
8590	1050	1500	70%	Last Yr	500	450	800
				Est.	350	315	1000

This table shows that our current general catalogue sales are only 70% of last years. A thorough consideration of the various sales change factors reveals perhaps a poor cut and smaller space than used last year. We feel justified therefore in assuming that the 70% ratio should approximately measure the ratio in sales for April and May. An application of this percentage to the corresponding figures of those months results in the estimates as shown.

About the first of June however we find the new sale book will take full effect. The work shoe in question is listed in this book at a considerable reduction in price and is featured using half of one page in space. We find that last year the shoe was in the sale book also but did not have an equal publicity nor price advantage.

We now find it necessary to use the pre-season General Ratio Method to make an estimate for June as certainly the old General Catalogue comparisons are no longer valid. In the example our best judgment brings the conclusion that we should sell 25% more than last year. Consequently our estimate for June is made

accordingly.

Thus we see that we have used two different ratios on account of two periods being included which have varying conditions obtaining.

It is imperative that the rebuyer so recognize the existence of mixed periods.

It is evident that the current comparison method may be used where the last years figures of the same article are available. It has been used also with last years sales of a similar article when the same one was not so listed. In order to use such a similar article however, it is obvious it must have had the same level of potential appeal. If in order to obtain a foundation for an estimate an article be selected for comparison which is far from identical misleading figures will naturally result.

Another method of estimation however is used which makes it possible to make comparisons successfully although the similarity exists in general nature only.

The Radio line has been greatly changed every year due to its rapid development. The changes have been both in the instrument and in the cabinet styles. It has been practically impossible at any time to pick an item of the previous year which was closely similar to the number upon which the estimate was being made.

Clearly then we cannot make direct comparisons number by number to obtain sales estimates.

After
Start
of
Season-
Current
Line
Percentage
Method

Instead however we will establish a general radio set sales curve from previous years figures and use that as our basis. This curve is expressed through a set of relative percentage figures developed as follows. The sales figures of all radio sets of the previous year are totaled by periods and the percent established which each period bears to the total seasons sales. Such a table of percentages is given.

Line - Radio Sets						Percentage Chart						
Month -	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Curr. %	1	4	10	25	20	15	10	6	4	3	1	1
Acc. %	1	5	15	40	60	75	85	91	95	98	99	100

After a table of this kind is constructed the sales variations should be carefully checked against any sales change factors which might tend to modify the percentages so as to better apply to the current year.

When the percentages have been agreed upon they are used in the estimating in the following manner.

First, we should state that some initial pre-season estimates must have been made along the lines discussed previously. Once the season is fairly started however the percentages come into play by giving a sales ratio of any period or group of periods to the period or group of periods which already has produced definite sales.

For instance if we stand at the first of October estimating for October, November and December, we have July, August, and September behind and their sales available for comparison. Note the following table.

Article No.	Sales To Date	Estimates		
		Oct.	Nov.	Dec.
	Percentage 15%	25%	20%	15%
1500	75	125	100	75
1502	30	50	40	30
1506	150	250	200	150

This shows how the percentages are taken from the percentage chart as previously worked out and applied to the creation of future estimates using the sales to date as a basis. In this way every radio set is worked out on the same sales curve basis. It is not true of course that exactly the same sales curve will be followed when the actual sales are experienced. The vagaries of the customer will not allow the law of averages to work out that exactly.

However each set will follow on the average the general sales curve set by the percentage charge inasmuch as all of the sets have the same seasonal appeal.

This Current Line Percentage method may be successfully used in any line where a number of items are concerned which have the same general seasonal appeal. It is particularly applicable where the item or line changes its designs, patterns, colors or other essential characteristics from season to season but does not change its fundamental seasonal appeal.

In such cases this method is the only one available which will give satisfactory results. In the past this method has not been fully taken advantage of and sometimes unsatisfactory comparisons have been attempted instead. Even when designs or patterns have been changed attempts have been made to pick out certain definite dropped items for direct comparison by the Current Comparison method. Such attempts usually produce unsatisfactory results for obvious reasons.

Even when identical direct comparisons may be made from one year to another it is quite possible that the percentage method will produce the more accurate estimate. We know the sales curve of even the same item will not exactly repeat itself even though seasonal conditions do. The human equation is bound to cause variances.

When we average the performance of several items which all have the same seasonal demand we will logically arrive at an average sales curve for the line which is very likely to prove the more dependable even for the item which is relisted.

For instance we may have a line of staple patterns in percales which are relisted from year to year. Although a direct comparison pattern by pattern with the last years sales is possible, better estimates may be obtained by constructing a percentage chart from last years figures. The sales of all of the patterns are added together to build this chart. The estimates for this year on each pattern are all made then on the same basis as averaged out over

the whole line.

Entirely
New
Items

Some mention has been made before of the difficulty encountered in estimating the demand of an entirely new item. By a new item as discussed here is meant an item which is entirely new in nature and in sales appeal.

The pre-season estimate is particularly hard as there is no approximate level of sales from which to start. We have no previous sales figures on which to form a ratio. Consequently we must procure our estimates from thin air, so to speak. Sometimes however we may be assisted by figures furnished by the factory in case the item is not new on the market. At any rate the aim should be to make the initial estimate very conservative even to the point of risking stock trouble so that our next estimate may be made on the basis of current sales.

This policy proves a paying one as it many times proves impossible to gauge the mail order sales possibilities of these items. Sometimes what was intended for an initial order of one months sale proves to be a seasons supply.

The next estimate does have the benefit of current sales figures to date. However there still must be constructed the sales curve which the new item will probably follow. Of course no previous sales can be the basis of a percentage chart for this item. Instead one is formed from a consideration of the uses for the article and in consequence in what periods the demand should most logically come.

DEFINITENESS
A
NECESSITY

Although we have now seen that the making of estimates has at the worst considerable foundation, the fact that estimates are forecasts of the future tends to encourage an atmosphere of indefiniteness around those estimates and the making of them.

However the fact that some uncertainty must exist does not mean that the making of these estimates must be in any way indefinite. If the estimates are formed intelligently then definite ideas must be formed. Careless thoughts of "about so many" and "between so and so and such and such" will not be productive of good results. A definite target should be aimed at and certainly a steady gun pointed directly at the middle is more liable to hit the bulls eye than a shaky one waved in eccentric circles in the general direction of the target.

Very definite estimates must be made in order to really force to a focus a consideration of the various pertinent factors described in the foregoing pages. These must be made by periods too so that shipments may be scheduled with a satisfactory turnover in mind.

The periods for which these estimates should be made are determined in connection with the construction of the purchase order which will be explained in the next chapter. Suffice it to say that the periods themselves are very definite and require a definite crystallization of thought on the part of the rebuyer.

For example he must say to himself something like this, "In the next two weeks I will probably sell 72 - in the following

month 160 - and 120 up to the 20th of the following month".

To force a definite treatment of these estimates by periods the experiment has been very successfully tried at Kansas City of having the rebuyer write his estimates by periods on to the flap of the purchase order in red pencil. This will be explained further in the succeeding chapter.

This writing of estimates not only forces the rebuyer to definitely crystallize his judgment but it affords anyone examining the order the knowledge as to just what the estimates are on which the order was built.

VI PURCHASING (REBUYING)

CONSTRUCTION OF THE PURCHASE ORDER

GENERAL
THEORY

It is fitting to again point out the fact that in the placing of purchase orders the rebuyer is dealing with two widely different elements. The first is the MAKING OF ESTIMATES and the second the CONSTRUCTION OF THE PURCHASE ORDER FROM THESE ESTIMATES. The rebuyer may not have always realized them as independent of each other nor treated them that way. However the lack of realization of it does not eliminate the difference between them nor eliminate the necessity for separate treatment.

Relation
to
Estimates

We have seen that the making of estimates deals with an attempt to measure peoples desires and the extent to which they will bring those desires to us for satisfaction. It is quite apparent that the process for the measuring of peoples wants has no vital connection with the process we use to insure certain turnovers and irregularity figures.

In this chapter we will discuss at length the various factors which enter into purchase order construction and which determine turnover. If not before surely after considering the points brought out in this chapter a realization will be had that the principles governing the making of estimates and the principles governing the construction of purchase orders are entirely independent and deserve independent thought and separate treatment although used together in the purchase order.

An analogy may be drawn to the construction of a building.

We can plainly see the difference between the creation of steel beams by the steel mill and the use of these beams in constructing a building. The steel mill has problems of its own in producing reliable steel beams and the beams are produced irrespective of whether the building which uses them will be five stories or fifteen. The construction of the building is planned by the architect to occupy certain space, rise so many stories, and serve certain uses as desired by those building it.

It is apparent that the principles used in creating the steel beams are of an entirely different nature from those used by the architect in drawing his plans.

These steel beams represent in our analogy the estimates of demand and the architects plans represent the principles governing the construction of a purchase order.

As the architects plans are shaped to result in the building which is desired so the purchase order plans of construction should produce definite desired results in the way of turnover and irregularities.

Every factor concerned in the construction of purchase orders is rather definite and fairly easy to determine.

These factors are explained as follows:

Count-to-Source Time

After the stock is counted the rebuyer must determine what

Specific
Performance
Aimed
At.

Construction
Factors

his needs are and then create the purchase order. The order must then be censored by the Division Superintendent and the Branch House Superintendent of Merchandise and be mailed to the source of supply either direct or through the buying office. The count-to-source time is the elapsed number of days between the date the stock is counted and the date the order reaches the source of supply.

"Criterion" Time

By the term criterion time is meant the time agreed on between the source of supply and the buying office as being necessary for the source to usually use after the order is received in order to prepare the merchandise for shipment. This time is shown by the buying office on the so called "Criterion Sheets which are issued to give complete information concerning the buying arrangements with the source. The term "Criterion" time is derived from these sheets.

"In Transit" Time

After the source of supply has prepared the merchandise for shipment and then released it to the transportation facilities, a certain number of days is consumed before the merchandise arrives in the receiving room available for use. This interval is termed the "In Transit" Time.

"Replacement" Time

As the name indicates the replacement time is the number of

days after the count is taken before the merchandise arrives in the Receiving Room. Obviously it is made up of the count-to source time, the criterion time and the In Transit time totaled.

Stock Cushion

We have discussed the stock cushion previously and have seen its function as the minimum working reserve which we attempt to keep on hand to take care of unexpected increases in demand. In practical use therefore we attempt to maintain this stock cushion by bringing the new merchandise in a certain number of days before we believe the old merchandise will run out. This certain number of days is then the stock cushion.

Regular Coverage Period

By the regular coverage period we mean the usual number of days stock ordered at any one time. A moments consideration will bring the conclusion that on the average the length of the coverage period determines how often orders will be written.

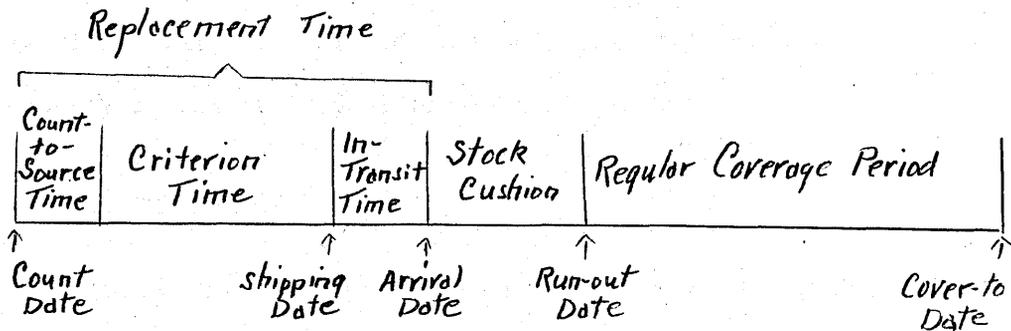
For example if the regular coverage period is thirty days it means an order must be written on the average every thirty days. Of course it is more expensive to order often. Extra purchase orders take time to specify, write and involve extra clerical work incident to their creation. The longer coverage periods are therefore the most economical from an operating standpoint.

Experience has indicated that thirty days constitute a

reasonably satisfactory coverage period from the angles of both economy and efficiency in ordering.

Diagram

The diagram below shows in a graphic way the relation between the factors as discussed above and shows several additional factors and how derived. The horizontal line from left to right represents the passage of time in days.



The relation between the various factors entering into the construction of purchase orders is clearly indicated in this diagram. These relations are exceedingly and fundamentally important, as they govern or at least should govern absolutely the procedure of purchase order construction.

Several points in connection with the diagram remain to be explained although most of them are self explanatory.

Shipping Date

This is the date on which the factory is to ship the merchan-

dise and is naturally just at the end of the period allowed for the criterion time. It therefore follows the stock count date by an interval equal to the sum of the count-to-source time and the criterion time. Figured from the other direction it precedes the run-out date by an interval equal to the sum of the stock cushion and in-transit time.

Arrival Date

This is the date on which the merchandise now being ordered is first available for use. It naturally follows the shipping date by an interval equal to the time in transit.

Run-out Date

At the time the new order is placed we estimate that the old merchandise which is then on hand and on order will run out on a certain date. This is called the Run-out Date.

This date is the starting point of our order construction and one of the main elements used in determining when to order and what shipping date to specify.

Cover-to-Date

It is important to establish a certain definite date to which we should cover. A study of the diagram shows that if we allow for every factor which is agreed upon as necessary our order must cover to the end of the regular coverage period. It is apparent of course that the new merchandise being ordered

is not actually used until the run-out date of the old merchandise. At that time however it will start being used and will last to the end of the regular coverage period.

The cover-to date is obviously arrived at by adding together the replacement time, the stock cushion, and the regular coverage period, and then adding this total number of days to the stock count date.

Our new order should then be constructed so as to cover our needs up to this cover-to date. Consequently it is necessary to make all estimates up to this point only.

Order Point

The diagram plainly shows that if all factors are to be allowed for, the count date on which the order is placed must precede by a certain definite interval the run-out date. This definite interval is the number of days figured by adding the replacement time to the stock cushion. A glance at the diagram will show this clearly.

This interval is called the Order Point.

DEFINITE
PROCEDURE

There are three very definite decisions which must be made by the rebuyer in connection with placing purchase orders. The first is WHEN to order, the second is HOW MUCH to order and the third is WHAT SHIPPING DATE to specify. The construction of our purchase order hangs primarily on these three points.

We will proceed therefore to put these three points on a definite basis and show how our construction factors discussed previously enter the picture so that the order may be constructed by very definite rules. In fact not only may the order be constructed by these definite rules but the order must be constructed by these definite rules so that the various factors already agreed upon as necessary will be allowed for.

It must be remembered that we are dealing now, if you please, with architect's plans and construction work and not with the creation of the beams at the steel mill. In other words we are now ready to use our estimated demands according to certain definite construction rules so that the order when built will answer the requirements written in the merchandising plans.

When
to Create
an Order

As the rebuyer turns his stock record book to a new page and starts the consideration of a new number, he must answer definitely this question. "Shall I place an order now or shall I wait until some future time before placing it?"

We have seen previously that an order should not be placed

too late or some one of the following factors will not be allowed for; count-to-source time, criterion time, in-transit time and stock cushion.

On the other hand it is not well to place an order before it is necessary. The closer we are to the period being ordered for the more clearly may we see our needs. Also it is usually easier to place a new order than to cancel or defer shipment on an old one. These reasons are sufficient to indicate why we should usually not place orders before our construction factors require it.

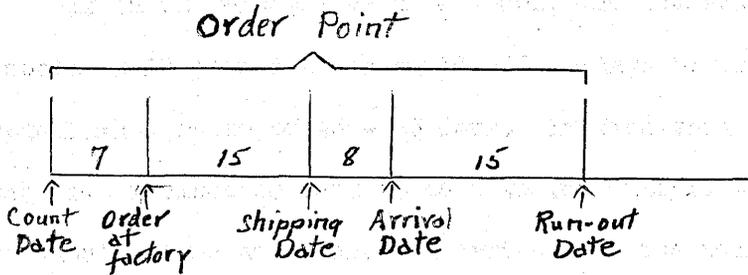
If we must not place an order too late nor on the other hand ahead of our necessity it becomes well to recognize the certain point very definitely when it is proper to place the order.

This is determined by the Order Point discussed previously. This order point represents the interval between the count date and run-out date with all intermediate factors properly allowed for.

To put it briefly - WHEN THE STOCK ON HAND PLUS ON ORDER IS DOWN TO THE ORDER POINT IT IS TIME TO ORDER.

The above is a definite rule to be followed by the rebuyer.

We will illustrate the working of this rule. Suppose the count-to-source time is 7 days, the criterion time 15 days, the in-transit time 8 days and the stock cushion period 15 days.



A reference to the diagram shows that if we are to allow for the various elements mentioned we must place our order when our present stock on hand and on order is down to a 45 day stock. If we get lower than that some element cannot be allowed for.

Our order point in this example is therefore 45 days.

When the rebuyer turns his page then, and asks himself the question "Shall I place an order now or wait", he will ask further in this case "Am I down to a 45 day stock on hand and on order".

If the answer to this last question is in the affirmative then he should proceed at once to the construction of the purchase order. If the answer is in the negative he passes at once to his next page KNOWING he is justified in passing it by.

A slight qualification of the order point is necessary owing to the interval between stock counts. The stock may not be quite down to the order point but will be before the next stock count. In such a case it is a practical expedient to add two-thirds of the stock count interval to the order point and thus establish an order point range.

If in the example we have taken, the interval between stock counts is 15 days then we would add 10 days to the order point and establish a range of 45 - 55 days. If then when the stock record page is examined we seem to be down for example to a 50 day supply we should place an order. Otherwise when the next stock count and specification period arrives we will be down to a 35 day stock which will cut our time too short.

It is quite clear then that an individual order point should be established and used for every item. To obtain the proper order point the rebuyer should estimate carefully the average count-to-source and in transit times. Also the criterion time used by the factory and the stock cushion should be set carefully. The criterion time as established by the buying office will be usually used unless experience indicates a different figure is more nearly correct. In that case he should use the figure which actual experience dictates. These four periods of time should now be added together in order to obtain the order point.

This order point figure should be entered on the stock record page so as to be readily available.

In using this order point it is important to note that a definite run-out date must be established so that a comparison of the stock condition with the order point will be possible.

In the last analysis therefore the rebuyer must answer this definite question. "On what date will the stock which I now have

on hand and on order run out"? After this date is set he will figure how many days stock it embraces and then compare that figure with the order point range.

If it is within the range he will then proceed to construct the order.

After the rebuyer has determined that his stock lies within the order point range and that therefore it is necessary to place an order, he must next decide on how much to order.

Sometimes for special reasons which we will go into later it is proper to order more than the actual current needs. Even in such cases however the needs form the basis for the order and in the large majority of cases only the current needs comprise the order. We will therefore first consider how we may determine how much we need.

Harking back to the diagram of construction factors we see that our new order should cover definitely through the regular coverage period and up to the cover-to date. Such a coverage then would take care of our current needs.

The first step therefore is to determine our cover-to date. The rebuyer will do this by adding the replacement time, the stock cushion and regular coverage period together and then adding this total number of days to the stock count date.

Quantity
to
Order

The interval between the stock count date and the cover-to date we will designate as the period of current needs.

It next becomes necessary to create the estimates of demand for the period of current needs. The methods for creating these estimates were discussed in a previous chapter. We are interested here in how to properly use these estimates.

We have now the total demand estimate for the period of current needs. It merely remains now to subtract from this estimate the quantity which we have already on hand and on order. The result is the quantity which we need to place on the new order being written. An illustration of this procedure is given below.

Replacement Time 30 Days
 Stock Cushion 15 Days
 Reg. Coverage Period 30 Days
 Period of Current Needs 75 Days

 Stock Count Date May 15th
 Cover-to Date (75 Days Later) Aug. 1st.

On Hand	On order	Estimated Demand				Needs
		Bal. May	June	July	Total	
75	100	60	150	100	310	135

If no special considerations make it necessary or economical to order more than the current needs figure as just developed then that figure is used as the quantity to order.

Sometimes however special considerations enter in as mentioned which do make it either necessary or profitable to order more than the current needs figure.

Factories put up certain items in standard package which they will not break. These packages may run all the way from small cartons containing perhaps a dozen girdles to a case containing two thousand yards of flannel. Also minimum quantities are sometimes insisted upon, an order for less than which the factory refuses to handle for reasons pertaining to efficient production and handling.

In such cases as above cited it becomes often necessary to increase the quantity as arrived at for current needs to comply with these required conditions. It is wise however to actually determine the current needs in all cases so that we may be sure the nearest standard package is ordered. Sometimes it is well to reduce the quantity slightly rather than to increase it a great deal.

Several conditions may obtain to make it profitable to order more than the current needs. This was mentioned in a former chapter, in connection with a discussion of the storage function as performed by the inventory.

Transportation savings may often be effected. Much heavy volume merchandise is shipped in carloads. Inasmuch as carload rates are much less than L C L rates it becomes profitable to

order extra quantities and carry stock even two or three months sometimes in order to ship by carload.

Inasmuch as shipments by freight weighing less than 100 pounds are charged for at a 100 pound minimum, it is economical at times to increase the quantity for current needs to 100 pounds.

Factory terms sometimes specify that a partial or total freight allowance will be given if orders are of certain sizes. In such cases consideration should be given of course to increasing the quantity for current needs so that the freight allowance may be obtained.

Special discounts are offered by factories particularly during the dull season to encourage large orders ahead of the season. Many times these inducements are too great to ignore. Sometimes arrangements along this line are made by the buying offices and in other cases it is left to the rebuying offices to take advantage of such special discounts.

Quantities larger than current needs are usually specified in the case of import merchandise. This is economical up to a certain point on account of the extra charges which each import shipment incurs regardless of value in the way of customs and importing fees and expenses.

Sometimes it is wise to bring an entire six months stock of imports in at once. Usually however two or even three ship-

ments may be made with economy.

We have discussed above a number of cases where possibilities of economy or extra profit exist through ordering more than our current needs figure. In a previous chapter we discussed this function of storage as performed by our Inventory stock. In that connection we pointed out the necessity of weighing each case on its own merits.

On one side of the scales we have the direct savings effected through quantity shipment in transportation charges, special discounts and import expenses. On the other we have the carrying charges as well as the possibilities of a decline in market and overstock losses.

The rebuyer finds it definitely necessary to consider all these points in determining more than the current needs should be ordered.

It is one of the primary rules of rebuying that the various lines of stock should be kept balanced. If a perfect balance were maintained then every item in a certain line would run out the same day if the stock were not replenished. It is obvious that a balanced condition allows the maximum efficiency in service from a minimum total stock.

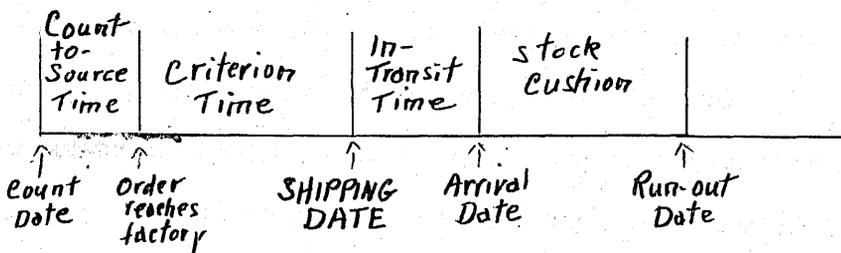
When any line of stock is covered to the cover-to date, such an exact covering has a constant leveling off and balancing effect.

When extra quantities beyond the current needs are ordered for any reason, especial care must be taken to see that the extra stock is balanced between the various items. Special work sheets are sometimes necessary to accomplish this. It is important to note that a definite extended cover-to date must be set in order to allow the extra quantity desired and at the same time keep all the items in the line balanced to the same date.

Shipping
Date
to
Specify

After determining the quantity to order the rebuyer must next decide what date or dates to specify on which the merchandise is to be shipped.

A glance at our construction factor diagram shows just where the shipping date should be if all the factors are exactly allowed for.



If we were ordering at just the right time we could determine our shipping date by estimating the date the order

would reach the factory and then adding the regular criterion time interval. This would result in the proper shipping date.

Merchandise shipped on this date would then arrive in time to allow a proper stock cushion interval before the old merchandise runs out.

However we find from a practical standpoint that usually we are not ordering at just the right time. A fluctuation in sales has perhaps brought us below the order point. It is obvious that in such a case some one or more of the construction factors must be reduced by the number of days we are late in ordering.

Let us review the factors involved and decide what may be reduced and how.

The count-to-source time may be reduced by wiring the order to the source of supply. The reduction possible here is naturally limited to three or four days. We may attempt to reduce the criterion time by simply not allowing the source the specified time. The in-transit time may be reduced sometimes by a change to faster routing. Finally the stock cushion may be reduced if found necessary by setting the shipping date so the merchandise will arrive closer to the estimated run-out date.

The setting of the shipping date when the total time is shorter than proper involves a definite allotting of the reduction

in time to the various elements just mentioned. It must be decided therefore where the reduction should best be made. Particularly if the stock cushion is small we should avoid a reduction in it as the maintenance of the service to our customers is exceedingly important. A reduction in it simply means, on the average, more out-of-stock irregularities.

The sending of telegrams and the using of faster transportation involves extra expense which should of course be avoided whenever possible.

The reduction in the criterion time has no objection from our viewpoint. It seems therefore logical to make any necessary reduction in the criterion time. The whole question involved here is whether or not the source will be able to reduce it for us.

In setting the criterion time the maximum time the source desires is usually used. Often merchandise is on hand or will be ready sooner than the criterion time indicates. It does no harm therefore to ask for quicker service than the criterion time allows. If the source is able to ship early we have gained the time we were short. If the source is not able to ship as desired, we of course may not complain.

Our time may be so short that it may not all be taken up in the criterion time. It may be necessary to reduce the other factors as well.

A consideration of these points then reveals the best procedure to be used in setting the shipping date.

If we grant that we wish most of all to maintain our stock cushion we will start at the run-out date previously determined and back up by the amount of the stock cushion to determine the necessary arrival date. The in-transit time interval will be subtracted and we have now come back to a shipping date which if observed will allow the regular transportation time and regular stock cushion.

In a buyers market particularly the cutting of the criterion time is possible as the various sources are willing to give extra service in order to get business.

An example is given which shows how the shipping date is arrived at.

Count-to-Source time	7 Days
Criterion Time	20 "
In-Transit Time	<u>10 "</u>
Replacement Time	37 Days
Stock Cushion	<u>15 "</u>
Order Point	52 Days

Stock on hand and on order down to 40 Day Stock.

Days late in ordering - 12

Count Date - May 1st.

Run-out Date (40 Day Stock) - June 10th

Stock Cushion 15 Days

Proper Arrival Date May 25th

In-Transit Time 10 Days

Proper Shipping Date May 15th

This develops then the very simple rule for determining the shipping date. DETERMINE THE RUN-OUT DATE. BACK UP FROM THAT THE NUMBER OF DAYS COMPRISING THE STOCK CUSHION AND IN-TRANSIT TIME. The resulting date should be used as the shipping date.

On some orders the opportunity arises to save money by splitting the shipment, having part shipped on one date and part on another. The point involved in this connection is the saving of interest charges by reducing the amount invested at any one time.

Every separate shipment of course incurs certain expenses in handling and extra clerical work in connection with receiving records and invoices. Splitting shipments may also involve extra transportation expense if each section does not constitute a profitable shipment.

Obviously then shipments should not be split unless the saving in interest charges outweighs the additional expenses mentioned.

This splitting becomes possible usually on heavy items which are ordered in large volume. For instance carloads of

Gyrator washers or tires might be shipped very profitably each week. On most lines of merchandise however it is found that one shipment a month is proper. In other words if we are ordering on time for current needs only the entire shipment may come in at one time.

When occasion does arise however to split shipments the shipping dates of the respective sections are each one arrived at by the rule as given.

The rule as stated however does admit some exceptions. Sometimes the terms on the price contract are such that the invoice is not payable until the following month regardless of what part of the month is shown as the date of the shipment and therefore the date of the invoice. For example an invoice dated May 25th with such terms would be payable in June. If the invoice is dated 5 days later, June 1st, it would not be payable until July. We see then it is possible in this case by delaying the shipment 5 days to save a whole months interest on the investment.

In view of this it is wise when such terms prevail to make an exception to the rule when the shipping date works out in the last several days of the month.

When therefore such a case does exist we should defer the date to the first of the month if by so doing the stock cushion is still largely maintained. For instance if the stock cushion is 15 days a deferment of 5 days would be allowable. The allowance in other stock cushions would be in proportion.

It is true of course that a hard and fast rule would cause incorrect action in special cases if enforced blindly. Various cases have peculiar conditions which might make it advisable to vary the rule to suit.

At any rate a thorough understanding should be had of the relations between the various elements involved with the shipping date so that special cases may be handled with these relations in mind. If they are ignored trouble will result.

The large majority of cases however are not special and will therefore be subject to the general rule as stated, and the shipping date will be set so as to maintain the proper stock cushion.

DEFINITE-
NESS
ESSENTIAL

At the outset of this section devoted to the construction of the purchase order it was brought out that we should place every point in the work on a definite basis. We have seen in the discussion in this section that it is possible to form very definite rules which should govern the construction of the purchase order.

The inherent lack of certainty in our estimates must not engender a sympathetic lack of certainty in our construction of the purchase order. Two errors are certainly worse than one. Errors consequently should and certainly can be eliminated in our construction procedure.

A bricklayer may not be positive that the brick he is putting in a wall has been made just exactly right. In fact it may be inferior and crumble in a few years. If he builds the wall for that reason carelessly and out of plumb matters are only made worse and the wall will go to pieces sooner than otherwise.

If estimates are carefully made and reflect an intelligent consideration of the proper sales history and sales change factors, they should average out quite well. Where they prove about correct the definite construction procedures as outlined will bring just the condition of the inventory which is proper.

If the estimates prove to be considerably wrong we find that with the order logically constructed the ill effect of the errors is minimized and that usually we will have the shortest distance

to go to correct the error. Also we still have the knowledge that the order was built logically and along definite understandable lines. Any errors may then be easily traced back and definitely located at the proper place.

It seems to be clear enough that there is every reason to support this use of definite construction procedure and no valid objections.

Considerable attention must be given to the estimates so that they are the product of definite lines of thought and not just a guess or a blind acceptance of sales history figures easily available.

The rebuyer in order to estimate along definite lines must be equipped then with definite information regarding the sales change factors as outlined as well as comparative sales history. On important changes in the factors his judgment should be supplemented by advice from those whose experience should be of value.

One expedient which serves to enforce definite lines of thought is to require estimates to be made by periods and actually written down. Also we find that where this is done a critical examination of the estimate is much easier. In addition the entire construction of the purchase order is assisted inasmuch as definite estimates by periods enter into the construction factors.

On the flap of the standard purchase order forms are spaces

for the stock condition to be shown as well as the sales history figures which are to form the basis for the order. Spaces are regularly allotted in which to show the corresponding sales for the periods for which we are to estimate.

At Kansas City an experiment has been tried in the writing of purchase orders which directs the estimating and the order construction into the definite lines advocated.

In addition to the regular information shown on the flap as described above the rebuyers write in the spaces in red pencil just exactly what demand they expect in the particular period which is shown under the heading of corresponding sales. Furthermore both the sales figures and estimates are to be shown up to the cover-to date only which is noted at the top of the last column.

Also a stamp is applied to the flap of the purchase order which when filled in shows part of the essential factors to be used in constructing the order.

The form below shows that section of the purchase order which illustrates our point.

Count Date	On Hand	On Order	" "	Corresponding Sales			" "	Total Quantity
				Bal. May	June	July 20		
5-15	45	40	" "	40	90	60	" "	60
			" "	30	70	45	" "	

CUSHION...15.....COVER TO...7-20...

REPL. TIME 20 CRIT. TIME 7

The red figure estimates afford very definite material to be used in connection with the construction factors in arriving at the proper quantity to order and the shipping date.

Our chief point in this connection is that the leading of the rebuyers mind into definite and proper channels is best accomplished by requiring essential factors to be shown and conclusions crystallized into figures by definite periods.

It might be observed that the showing of this information on the flap of the order should mean no waste of the rebuyers time as there is nothing shown which can be omitted from his consideration if he builds his order upon proper estimates and according to proper procedure which will bring the inventory condition desired.

VII PURCHASING (REBUYING)

APPLYING RETRENCHMENT OR EXPANSION POLICIES

DETERMI-
NATION
OF
POLICY
CHANGE

A general survey of the inventory and commitment condition may at various times reveal it as unsatisfactory. It may of course be either too large or too small.

This condition may be brought about by unsuccessful rebuying so that as a result stocks are not being kept at the proper levels and thus the performances set in the budget are not being met.

On the other hand the unsatisfactory phases of the inventory and commitment condition may arise from a change in external matters which make a major change in our merchandising position advisable. The general level of inventory performance is set at the time the budgets are prepared with certain conditions prevailing in connection with the general trend of the market and general conditions at sources of supply.

It is quite natural then for conditions to change within the budget period so that a shift in position is made necessary. For instance falling market makes it profitable to hold the inventories at the lowest level possible as explained in a previous chapter.

In such a case a retrenchment policy should be made active as quickly as possible after the change in conditions becomes apparent.

If the over inventory position is the result of unsuccessful rebuying usually the stock is unbalanced and an overstock exists in certain spots. A certain measure of retrenchment is in order

here in order to balance off the overstocks and bring the average level more nearly into line.

On the other hand a survey of the inventory and commitment figures may reveal an underbought condition so that there is danger of excessive out-of stock irregularities. Again a rising market may be imminent so that larger stocks carried would make for greater profit in the end.

In either case an expansion policy for the inventory is in order.

We have then the possibility of conditions arising which make necessary a general policy of either retrenchment or expansion in inventory and commitments.

Once a change in policy is decided upon we find it necessary to establish the method of practical application so that the desired change may be accomplished.

The most obvious application of such a change lies in connection with the storage section of our inventory. Storage being over and above the current needs may be reduced with the least trouble resulting. On the other hand many opportunities present themselves for building additional storage if such is desired.

One group of elements affecting storage lies in connection with transportation charges. If our policy change is toward retrenchment many cases can be found where we are obtaining low unit transportation charges through ordering quantities larger than our current

APPLICA-
TION OF
POLICY
CHANGE-
STORAGE

needs. If new considerations are thrown into the scale in favor of smaller inventories the savings on transportation charges may be over balanced.

As a result instructions may be issued to eliminate carloads or special weight shipments. In which case the transportation savings must be outweighed by the opportunities to save presented by limited inventories.

If an expansion of inventories is in order we may then take advantage of every opportunity to make special weight shipments and in this way reduce transportation expense.

Quantity purchases are often possible at special discounts thus obtaining extra profit. These may be reduced or eliminated according to the degree of reduction in inventory desired. Of course particularly large discounts may outweigh the possible savings of reduced stocks. However in a falling market a discount which appears substantial may be more than wiped out by the reduction of market prices.

Conversely if inventory expansion is desired the making of quantity purchase to obtain special discounts is encouraged and the storage section of our inventory takes on a semi-speculative aspect.

If the change in the storage section of the inventory is not sufficient to meet the required degree of change in the inventory, then the ordering for current needs must be affected.

APPLICATION
OF POLICY
CHANGE -
CURRENT
NEEDS

We have two sets of factors to work with, those governing the demand estimates and those governing the construction of the purchase order. The change in policy may be applied to each separately.

Sometimes in estimating the demand a contradiction in sales change factors may arise so that it is difficult to know whether to choose the indication of the larger estimate or the one which points to a smaller.

In such a case if the policy change is one of retrenchment the smaller estimate should obviously be chosen. Similarly an expansion policy would require that the larger estimate be used.

Arbitrary adjustments are sometimes made in demand estimates regardless of how well founded the estimates may be. This plan tends to apply the change in policy even at considerable risk of error in effecting the change. The estimates as logically arrived at may be arbitrarily then increased or decreased a certain flat percentage.

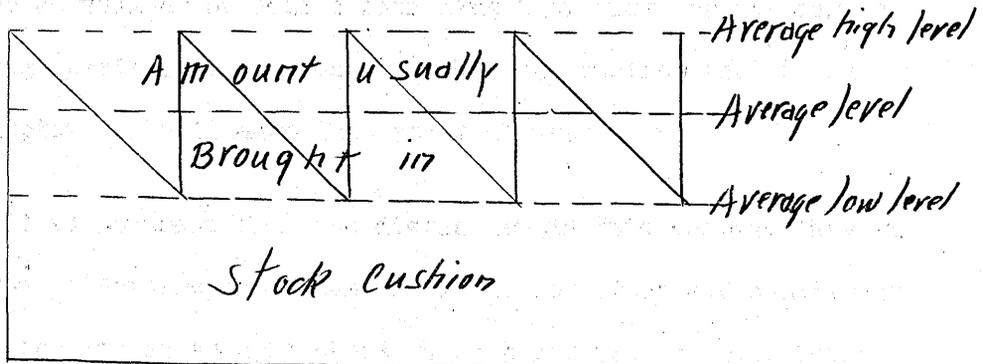
Of course a reduction made on such a basis gains something only when the adjusted figure proves to be correct. If the sales prove as originally estimated a supplementary order must be placed and possibly an out-of-stock condition is encountered.

Changes in inventory and commitment condition may be very directly effected through a change in the construction of the order.

We have seen that the stock cushion is the average low point of the inventory. We may obviously increase or decrease our inventory then by raising or lowering this low level or in other words increasing or decreasing the stock cushion.

The average high point of the inventory is the stock cushion plus the average amount received at any one time. Therefore the inventory level is affected not only by the level of the stock cushion but also the amount brought in. More split shipments will therefore accomplish a lowering of the top level of the inventory and reduce the average inventory.

The effect on the average level of inventory of the stock cushion and amount brought in at one time is shown in the diagram below.



This diagram shows how the inventory drops to the stock cushion as a low point and rises to a high point made up of the stock cushion plus the amount brought in. The average level is then between these two points and is governed by them.

It is clear that the average level of inventory may then be reduced by altering the stock cushion and the size of the shipments - at an added expense however. A reduction in the stock cushion means more out-of-stock irregularities and a reduction in the size of the shipments means a greater number of them and therefore additional receiving expense.

In order to reduce the commitment condition also a shorter regular coverage period must be adopted. It must be remembered however that the shorter the regular coverage period the oftener must orders be placed with a consequent increase in rebuying expense.

In shortening the coverage period there is a limit to the possibilities as the construction factors, replacement time and stock cushion must still be allowed for in the total coverage period as well as of course some length of time for the regular coverage period. A reference to the construction factor diagram in Chapter Six will make this point clear.

It is apparent from the discussion in this chapter that an emergency increase or reduction of the inventory and commitment condition may be brought about through definite changes being accomplished in the various factors and elements which make up the inventory or which are involved in purchase orders. A study of these points of change makes it possible to consider fully any factors of added expense as mentioned and then to set forth not only the definite method to accomplish the change but to regulate the degree of change in a fairly definite way.

VIII PURCHASING (REBUYING)

REVISION OF ORDERS

NECESSITY

In spite of the efforts which are exercised toward placing the original purchase order along logical and definite lines, we must realize that EVERY ORDER PLACED IS INCORRECT.

Every
Order
Incorrect

It must be remembered that estimates form the basis of the purchases as specified. Estimates are inherently inaccurate as they deal with futures. Our total demand estimate as used in the order may have been 100. There is an exceedingly small chance that it will prove to be exactly 100. It may be 99 or 101, 90 or 115, 80 or 135. The variance of course measures our rebuying ability to estimate closely.

If we grant then that the original orders as placed are incorrect we are faced with the problem of altering them according to more recent developments. We can never make the orders absolutely right however as the actual figures are never revealed until the period is past.

The order was originally placed in the light of current indications existing at that time. Later developments in current sales or sales change factors will change the aspect of the situation so that different demand estimates and therefore order specifications seem to be correct.

It is important to realize in this connection that if all estimation and construction factors are carefully and definitely used when the order is created there is less chance for a large

variance from actual performance than if the order is created without the same careful consideration.

Budget
Performance
Disturbed
by
Errors.

These errors in the specifications tend to disturb the performances as set forth in the Budget and as ostensibly aimed at in the procedure of the order construction.

If the estimates used were too low it is apparent that the old merchandise will run out before the planned run-out date. Therefore the shipping date as specified will not bring the merchandise into stock so that the stock cushion will be maintained. It is true of course that the stock cushion exists for the very purpose of absorbing demand changes just like this. However if the demand increase is large enough to wipe out the stock cushion then we have an out-of-stock condition with all of its attendant troubles.

If the estimates used prove too large then the old merchandise will last longer than originally thought. The shipping date as specified will bring the merchandise in even ahead of the stock cushion period so that we have in our inventory really more than our current need demands. This higher level of inventory increases our interest charges and is indicated by a lowered turnover figure.

Correction
of Errors
maintains
Performances
Desired

It seems an obvious conclusion that the errors which develop in the orders should be corrected as quickly as they become apparent. The matter however is not so simple as that. Making corrections in ones figures on a sheet of paper is one thing and making the correc-

tions on the purchase order after it has been in the possession of the source of supply for some time is another.

The alteration of the order may be distasteful to the source. Perhaps the merchandise is being made especially for us and it has already been put in work. Perhaps the source has purchased raw material on the strength of our orders. Perhaps the merchandise has been packed and set aside for us. Also even with no other objections a request for a change in the order demands clerical attention in the changing of factory forms and perhaps a revision of factory schedule.

Although an occasional change might be effected with no hesitancy a number of them would create protests. Yet a constant stream of corrections would have to be sent if we corrected every error.

To protect our own interests however we can not afford to ignore corrections which should be made. Our service and turnover figures would suffer immeasurably if this were not done. It must be admitted however that many petty corrections would be the source of expense to us as well as the sources.

From a practical standpoint then it would seem that a compromise must be effected. It is extremely important that necessary corrections be effected if at all possible. Each case must be weighed in connection with all pertinent factors which obtain both with us and at the source.

So that no necessary corrections be missed we find it essential to cover each case thoroughly and take action through definite procedure.

PROCEDURE
OF
ORDER
REVISION

Method
of
Determina-
tion

We are first confronted with the necessity of determining when an appreciable error has become apparent. This the rebuyer should accomplish at the time he makes his periodic check of the stock record books.

In our previous discussion we pointed out the proper procedure for the rebuyer to use in covering the books with new purchases in mind. He is to answer certain definite questions the first among them being "On what date will the stock on hand plus an order run out?" So much for determining whether to place a new order or not.

Before he turns to a new page however he must discharge his responsibility for the revision of orders already made.

Consequently he will answer this question "On what date will the stock on hand run out?" He must then compare this date with the date on which the merchandise already on order is scheduled to arrive. If the arrival date leaves more or less than a reasonable stock cushion then a correction seems necessary.

Theory
of
Revision

If we constructed our purchase order originally according to the proper procedure we find that the error was not in our selection and use of construction factors. In fact the construction factors used were designed to maintain the inventory level in such a way that both service and turnover goals may be attained.

It seems then that our order revision should aim at the restoration of these factors which have been disturbed. Consequently it should be our purpose to reestablish a reasonable stock cushion and the proper coverage period.

A reasonable stock cushion however need not be as large as the stock cushion used when the order was created. As we approach closer to the run-out date the uncertainty of demand may become less so that the stock cushion need not be as large.

For example - on June 20th we originally specify the order 75 days before the estimated run-out date. We may allow a thirty day cushion as the sales demand is quite uncertain. The arrival date scheduled is August 5th and the run-out date estimated is therefore September 5th. Thirty days after placing the order or on July 20th we review the item and decide that our estimates were too low and that the run-out date will probably be August 20th. The arrival date of August 5th allows only a 15 day cushion. However we are much closer to the date we are estimating than before and our estimate is more reliable. Consequently we may let the shipping date remain undisturbed as the reduced stock cushion will answer the purpose intended.

If however in our example a review on July 20th indicated the run-out date would advance to August 10th, the stock cushion would be reduced to 5 days which is too narrow a margin for safety. In this case corrective action seems necessary.

This same general method of determination should be used on each number and overestimates checked as well as underestimates. If the run-out date is somewhat later than originally estimated the stock cushion may become large enough to justify the expense and trouble of attempting to reduce it to a more reasonable size.

We have spoken also of the necessity of re-establishing the proper coverage period. This involves the placing of a new order or the cancelling of part of an old one according as the coverage needs to be extended or reduced.

In the above discussion regarding the general policy of revision some intimation was given as to the proper action to be taken in various circumstances.

We have seen that both underestimation and overestimation of our demand produces an incorrect level of inventory.

In the case of under estimation the point has already been made that the run-out date advances so that the planned stock cushion is reduced. If this is reduced below the level of reasonable protection then the arrival date must be advanced.

Usually this may be accomplished by advancing the shipping date by means of a letter or even a telegram to the source of supply.

Sometimes the advancing of the shipping date proves impossible or insufficient. In such a case the only other factor left

Action
Taken

which may be variable is the transportation. If the routing is specified as freight we may change part of the quantity to be shipped express and thus advance the arrival date.

It is obvious that if we have underestimated our demand for any part of the total coverage period (count date to cover-to date) we are in an undercovered condition. If the degree is very substantial then obviously new orders must be placed at once to cover the entire period properly.

These new orders will be placed of course according to the regular rules established in Chapter VI.

In the case of overestimation we have seen that the run-out date is further away than originally estimated so that the planned stock cushion is enlarged. If a careful consideration shows the economy of attempting to reduce it to normal size then our problem is to delay the arrival date.

This of course is accomplished by requesting the sources of supply to ship on a date later than that originally specified.

In addition it is evident that we are now covered for a period longer than originally planned and longer than our construction factors make necessary. This extra coverage may be enough to justify some action particularly if it runs past the end of the season. In the latter case the quantities on order should be reduced through cancellation.

Usually a cancellation is a disappointment to the source of supply and for that reason may be questioned. For this rea-

son requests for cancellation are made through the medium of the buying office.

IX ADJUSTING INVENTORIES

THROUGH SPECIAL MEASURES

Several auxiliary points deserve consideration in connection with adjusting inventories. Special measures are used at times to assist both in maintaining stock and reducing stock already on hand.

The points to be considered which relate to the maintaining of stock have to do with special measures taken to insure the proper stock being obtained, in addition to the placing of purchase orders in the regular way and revising them when necessary.

Not always do the sources of supply ship on the dates as specified. Inasmuch as the maintenance of the proper stocks depends on the merchandise being shipped as specified it becomes important to insist on the shipping dates being followed.

Most shipments are made on time without any punch-up on the source of supply being necessary. Sometimes however invoices do not arrive showing that shipments have been made as specified.

In such a case an inquiry should be directed to the source of supply at once. It is wise at this time before sending the inquiry to review the stock condition to be sure that a sales recession has not occurred which would make a deferment in shipping date advisable.

Although most of these so called punch-ups are made after the shipment is overdue, some should be made before it is even due.

MAINTAIN-
ING
STOCK

Punch-
up on
Source
of
Supply

Sometimes a particularly important order is involved or an order for new merchandise expected at the start of a new catalogue. Even though there is no particular reason to expect delay, it becomes an added safeguard to write a letter before shipment is due calling attention to the importance of shipping on time and asking for a reply stating that shipment will be made as specified.

The same procedure is often used when the source of supply involved has a reputation for slow deliveries.

Control
of
Factory
Production

In order to insure that an adequate supply of merchandise will be available, it becomes necessary sometimes to exercise partial or even complete control over production at the source of supply.

This policy is generally used in connection with items which are needed in large volume. This is particularly true when our business dominates in the factory or where the item is of special construction used by ourselves only.

It is not difficult to see that when the item is not being made for the general trade or where it takes a considerable length of time to manufacture it, that an increase in demand would find an inadequate supply unless an organized schedule of production is installed which fits into the demand estimates.

When such a production control is exercised it heads up in a centralized control unit usually in the buying office.

Estimates are accumulated there and in fact centralized rebuying is effected on the items in question.

The sales estimates as made for all houses are then used in connection with factory output figures to set a definite daily and weekly production.

Changing
Sources

Unreliable service from sources of supply sorely complicates the matter of properly maintaining inventories. The responsibility for this situation lies with the buying offices. Nevertheless the rebuying office is responsible for following up any offending source vigorously and reporting continuous difficulty to the buying office.

The buying office may arrange for another source of supply either as a supplementary one or to replace the original source altogether and the change may be just a temporary one or permanent.

That particular arrangement is decided upon which will result in the most assistance in maintaining stocks.

Pickup
Purchases

Sometimes it becomes impossible to procure merchandise from the regular source of supply before the stock is exhausted.

In case a shiplater or substitution is not possible or desirable then an omission is necessary unless the merchandise in question can be "picked up" from a local or nearby source.

Sometimes these local sources are manufacturers but more often are wholesalers. At any rate the pick-up cost is usually

more than the regular. However it is preferable to pay a premium and fill the customers order than to refund thereby disappointing the customer and losing even the reduced profit.

Very often pick-up purchases are a tremendous help in maintaining adequate stocks.

Exchange
of
Stock
Between
Houses

The exchange of stock between houses makes it possible to replace merchandise more quickly many times than otherwise possible. Sometimes the stock is ordered on account of a notice of overstock sent to the various houses, and sometimes it is ordered merely in the hope that the other house although not overstocked might spare some for accomodation.

The accomodation transfers should be asked for only in emergency as the other House's stock condition may be injured and also many times the merchandise costs more than if bought from the regular source of supply.

REDUCING
STOCK

Special measures for reducing stock are necessary only when an overstock exists. In a previous chapter we have seen the importance of eliminating overstock. Here we will consider ways of doing so.

Substituting

When an item which is overstock constitutes a satisfactory substitution for another item which is not overstock, the substitution is made. If the substitution is particularly close, the stock of the original is sometimes allowed to run out so that the overstocked number may find an outlet in these substitutions.

Exchange
of Over-
Stock
Between
Houses

The exchange of stock between houses was mentioned in the last section. Overstocks are reported continuously between houses and a considerable amount liquidated in this way. The costing is so arranged that the buying house pays the same as if the shipment came from the factory.

Two methods exist of carrying out this overstock transfer procedure.

The one system provides for a direct notification of overstocks between all houses and a placing of orders direct from the house wishing to purchase to the house wishing to liquidate. The only difficulty encountered in this procedure is the duplication of orders. In other words two different orders for the same overstock may be placed. One order will be omitted and the buying house will be made late in ordering from the source of supply.

The other method provides for a central clearance unit where all notices of overstock are sent as well as all purchase orders written on the source for the overstocked numbers. The central unit then directs the transfer of stock and transmits all purchase orders not filled from overstock to the source with a minimum of delay.

Although the latter method accomplishes the overstock transfer is the most efficient way, some additional expense is involved which leaves the precise method to be used open to a decision from the merits of the case.

Forcing
Liquid-
ation

The liquidation of overstock requires considerable forcing in order to accomplish the end. The correct inventory position cannot be maintained and the rebuy budgeted performances become difficult to reach until at least that portion of the overstock which is in season is forced out.

The general catalogue is of no assistance in this forced liquidation as the overstocked items are largely dropped numbers and those which are listed remain fixed in price for the duration of the book.

Special sale books are utilized to very good advantage in this connection. They are prepared comparatively quickly and can quote prices designed to not only stimulate sales but actually liquidate a volume of merchandise. The speed in preparation becomes very important as overstocks on seasonable merchandise are usually not conclusively apparent until near the close of the season. It is practically useless of course to issue a book containing them after the season has ended.

The distribution of these sale books is also a problem. A worth while saving of postage can be effected by distributing them as enclosures in packages. This makes for a comparatively slow distribution when compared with a complimentary mailing. When seasonable merchandise, fast going out of season is involved to a great extent, the enclosure method is not satisfactory. Otherwise it is economical and serves the purpose.

The Retail Stores connected with the mail order firm constitute a natural outlet for overstocks of dropped numbers. Considerable pains are taken to make this merchandise readily available to the use of the stores.

A large volume of overstock is liquidated at reduced prices through the Employees Bargain Room. Many broken lines, odds and ends are cleared here which could not be listed in Sale Books or sold to the stores on account of lack of quantity and assortment deficiencies.

Jobbing remains as the liquidation outlet of last resort. Usually the jobber is looking for distress merchandise at fifty cents on the dollar. Consequently his offers do not many times fit in with ones plans.

While it is important to force liquidation in every way possible yet it usually is not wise to sacrifice merchandise if by carrying it ourselves for sometime we may be able to realize an increased price considerably over the interest charged for carrying the merchandise. For that reason it is often well to carry seasonable merchandise until next season rather than dispose of it for what it will bring.

It is apparent that any one who would buy it would do so with the intention of holding it till next season himself. Certainly we are able to carry it as well as anyone else and thus conserve to ourselves the final profit.

X SUMMARY AND CONCLUSION

PROBLEM
RESTATED

The problem confronting the rebuying organization is the very definite one of maintaining the inventory at the levels which are the most profitable. To state it more specifically the problem is to so conduct the day by day purchases of the thirty odd thousand items in our catalogue that the general levels will be reached in service and turnover performance which have been set forth in the budget sheets as being the levels most conducive to ultimate net profit and at the same time that the elements of loss will be reduced to the lowest possible figures.

In the attempt to solve this problem we find that all too little contribution has been made from those experienced in the work into a common fund of information in written form which can be made easily available for those less experienced.

Basic principles and definite procedures have been slow in crystallizing on account of the element of indefiniteness and uncertainty which has always predominated in the rebuying atmosphere.

As a consequence adequate control has been difficult to exercise due to a lack of definite lines of detail along which to work. General lines of control have been established but the projecting of this general control into specific control has probably not yet approached its possibilities.

Our problem then resolves itself into the establishment of definiteness in rebuying principles and procedures so that

the fruits of past experience may be enjoyed; so that a new rebuyer may utilize to a great degree the knowledge of the rebuy organization gone before; so that a definite control on the unit inventories may be exercised by himself, his Superintendent, the Superintendent of Merchandise and the General Merchandise offices to the end that general merchandising goals may be intelligently reached for.

ELEMENTS
OF
SOLUTION
REVIEWED

The ultimate solution of our problem lies in the future when laboratory methods of analyzing rebuy principles and procedures have found their place and have had time to produce results. At least we have attacked the problem, however feebly, and indicated at least in some points the direction in which the solution lies.

A clear understanding must be had that two functions are performed by the inventory, those of storage and current reserve, and that decisions should be made independently and specifically as to how these functions shall be utilized.

We have also seen that the placing of purchase orders resolves itself into two distinct parts, the estimating of demand and the construction of the order. We have discussed the factors which are involved with each part and have seen that they are in no way connected.

Our conclusion is therefore that the estimating of the demand and the construction of the purchase order must be treated

independently and definitely so that the proper allowance may be given to the various governing factors.

We see the absolute necessity of definiteness and standard procedure wherever possible particularly as the estimating of demands is necessarily somewhat indefinite. In connection with the problem of estimating future demand provision must be definitely made for the rebuyer to have readily available all pertinent information regarding sales change factors. Also sales history must be used only in connection with and modified by these sales change factors.

We have formulated definite rules to be followed in the construction of purchase orders. These rules merely express the relations which actually exist between the chronological factors which are involved in the matter. They are important and are designed to lead the individual unit inventories into the condition intended for them as expressed in general policies and budget figures.

It has been pointed out that our work is not finished with the placing of an order. We must realize that rebuying work involves many unavoidable errors and that our success is measured largely by our celerity in detecting them and effecting necessary corrections.

FUTURE
PROGRESS

We stand upon the threshold of new possible efficiencies in our merchandise control. The progress we have enjoyed so far merely emphasizes the possibilities for better methods of procedure. The wastes and losses that exist in the general merchandising field indicate the need for even more scientific methods in merchandise inventory control.

The future progress will be accelerated tremendously when merchandising control principles and procedures may be well standardized through universal collaboration between the best merchandising minds, and where the experience of successful executives may be passed on not only to successors but to other merchandisers in the same field.