1. Definitions of Assortment Planning
- Consideration the numbers going to have any particular classification within any particular store.
- Balance assortments as wide of age group possible then go to specific items.
- Breaking down by division & department based on space of store & open-to-buy dollar.
- Arrangement of open-to-buy dollars from each store & each vendor to each style & each month.
- Plan of quantity of each style with different colors.
- The dollar plan for each product category for a season.
- Balancing product selection & assorting the quantity of selected products.
- Selection without duplication.

2. Overall Difficulties in Assortment Plan
- Dramatic change
- Limited consideration regarding geographical distribution
- Relationship with vendors
- Guessing based on past history
- Keeping balance
- Unpredictable weather pattern.
- Predicting customer want.
- Too many variations

Figure 8-1. Practical Assortment Planning Model: A0 Diagram
Figure 8-2. Practical Assortment Planning Process (A1 to A7) (Continued)
Figure 8-3. Practical Assortment Planning Model: Problem Recognition (A1) (Continued)
Figure 8-4. Practical Assortment Planning Process: Problem Recognition Process (A11-A17) (Continued)
Analyze vendor performance in sales history.

Figure 8-5. Practical Assortment Planning Process: Problem Recognition (A11, A111-A114) (Continued)
Analyze product performance in sales history.

- Sales history
- Miscomprehension of sales history

- Compare sales of two years
- Categorize the net profit
- Price Competition
- Compare markup or markdown
- Compare shortage & overstock product
- Rank product performance

- Closing vendors
- Product performance

Figure 8-6. Practical Assortment Planning Process: Problem Recognition (A12, A121-A125) (Continued)
Figure 8-7. Practical Assortment Planning Process: Problem Recognition (A13, A131-A133) (Continued)
Figure 8-8. Practical Assortment Planning Process: Problem Recognition (A14-A16, A151-A153) (Continued)
Figure 8-9. Practical Assortment Planning Model: Fashion Forecasting (A2) (Continued)

Discrepancy between customers & vendor collection

Long time advance plan compared to fashion change

Getting shorter & various fashion cycle

Overall trend in market

Socioeconomic situation

Target customer's lifestyle

Newspaper

TV

Magazines & periodical

Fashion forecasting service

Fashion show

Common new things among vendors' collections

Forecast New Fashion

A2

A21, A22, A23, A24, A25, A26, A27, A28

A3

A4
Figure 8-10. Practical Assortment Planning Process: Fashion Forecasting (A21-A28) (Continued)
1. Constraint in Information Search
- Taste gap between vendor information & target customers
- Needs of flexibility
- Not directly applicable information
- Not accurate information regarding competitors
- Subjective information
- Time constraint of organizing information
- Fast style change compared to information
- Focusing on target customers from various information
- Not established effective information organization system

Figure 8-11. Practical Assortment Planning Model: Information Search (A3) (Continued)
1. Inputs of Style Information Search
- Target market characteristics.
- Customer's request
- Sales history
- POS data
- Test run data
- Own experience
- Sales people opinion
- Vendor's opinion/show room/catalog
- Repeated products by vendors in market.
- Fashion forecasting services
- Publication
- Fashion show/Better market styles
- Competitor's products
- Street trend

2. Constraints of Style Information Search
- Taste gap between vendors & customers
- Needs of flexibility
- Not directly applicable information
- Not accurate information regarding competitors
- Subjective information
- Time constraint of organizing information
- Fast style change compared to information
- Screening information for target customers
- Not established information organization system
- Trusty opinion from vendors

Figure 8-12. Practical Assortment Planning Model: Style Information Search A31  Diagram
Figure 8-13. Practical Assortment Planning Model: Style Information Search Process (A311-A318) (Continued)
Figure 8-14. Practical Assortment Planning Process: Style Information Search (A311, A3111-A3112) (Continued)
Figure 8-15. Practical Assortment Planning Process: Style Information Search  (A312, A3121-A3123) (Continued)
Figure 8-16. Practical Assortment Planning Process: Style Information Search  (A313, A3131-A3134) (Continued)
Figure 8-17. Practical Assortment Planning Process: Style Information Search  (A3133, A31331-A31334) (Continued)
Figure 8-18. Practical Assortment Planning Process: Style Information Search (A315, A3151-A3152) (Continued)
1. Inputs of Color Information Search
- Target market characteristics.
- Customer's request
- Color sales history
- POS data regarding colors
- Test run data
- Own experience
- Sales people opinion
- Vendor's opinion/ show room/ catalog
- Repeated products by vendors in market.
- Color forecasting services
- Publication
- Fashion show/ Better market styles
- TV
- Competitor's product & catalog
- Cosmetic trendy colors

2. Constraints of Color Information Search
- Difficult to know target customers preference.
- Vendor's limited colors selection.
- Reliability of customer request data
- Not established information organization system

Figure 8-19. Practical Assortment Planning Model: Color Information Search (A32) Diagram
Identify target customers
Analyze sales data by color
Gather opinion
Observe TV guests
Summarize information
Pinpoint suggested colors in publication
Observe competitors

Target market characteristics
- Sales history
- POS data
- Test run data
- Sales people opinion
- Vendor's opinion
- Forecasting service

TV program
- Fashion show

Color assortment direction
- Publication
- Cosmetic trendy colors
- Competitor's product
- Catalogs


1. Note A322
The activity A322 is done by Inventory Control Department as using computer system in all big companies.

NODE: A322 TITLE: Color sales history analysis NO.: 1
Figure 8-21. Practical Assortment Planning Process: Color Information Search (A321, A3211-A3212) (Continued)
Analyze color sales data

Identify sales trend pattern of basic colors past several years

Past sales trend of basic color

Test run data

POS data

Not organized information system

Analyze color test run results of previous year

POS data by color

Test run results

Previous year color test run results

Current sales trend by color

Current color sales trend

Track current sales trend by color

Past sales trend of basic color

Color sales trend in our store

Figure 8-22. Practical Assortment Planning Process: Color Information Search (A322, A3221-A3223) (Continued)
Figure 8-23. Practical Assortment Planning Process: Color Information Search (A323, A3231-A3234) (Continued)
Figure 8-24. Practical Assortment Planning Process: Color Information Search (A3233, A32331-A32334) (Continued)
Figure 8-25. Practical Assortment Planning Process: Color Information Search (A326, A3261-A3262) (Continued)
1. Inputs of Size Information Search
- Target market characteristics (Ethnicity & Age).
- Size sales history
- POS data regarding colors
- Customer request
- Own experience
- Sales people opinion
- Vendor's opinion/ pre-pack/ size-spec
- Publication
- Test run results
- Survey results regarding fit.

2. Constraints of Size Information Search
- Needs for accurate demographic information by geographic area.
- Vendor's different size spec (e.g., Europe manufacturer)
- Minimum quantity requirement of pre-pack regulation.

Figure 8-26. Practical Assortment Planning Model: Size Information Search (A33) Diagram
Figure 8-27. Practical Assortment Planning Model: Size Information Search Process (A331-A327) (Continued)
Figure 8-28. Practical Assortment Planning Process: Size Information Search (A331, A3311-A3314) (Continued)
Figure 8-29. Practical Assortment Planning Process: Size Information Search (A332, A3321-A3324) (Continued)
Figure 8-30. Practical Assortment Planning Process: Size Information Search (A333, A3331-A3334) (Continued)
Consider vendor's offer

Vendor's size spec

Vendor's regulation

Consider the difference in size spec among vendors

Different size spec by vendors

Different size spec by vendors

Minimum quantity or pre-pack regulation

Vendor's size spec

Vendor's regulation

Minimum quantity or pre-pack regulation

Options in size assortment

Size spec consideration

1. Note A3341

Different Size Spec of Europe Manufacturers

Especially, when buyers import from Europe, they have difficulty to adjust the size spec difference in US market.

NODE: A3341 TITLE: Consider size spec difference NO.: 1

Figure 8-31. Practical Assortment Planning Process: Size Information Search (A334, A3341-A3342) (Continued)
1. Constraints in Qualitative Evaluation
- Difficulty of balance
- Needs for advanced technology
- Unpredictable weather change
- Vendor obligation
- Subjective evaluation
- Fast style change
- When no history base

Evaluate the qualitative aspects of products

Figure 8-32. Practical Assortment Planning Model: Qualitative Evaluation (A4) (Continued)
1. Inputs of Style Qualitative Evaluation
   - Style information search outputs
   - Fashion forecasting outputs
   - Merchandising concept
   - Sample styles from Europe or better market
   - Price of products
   - Brand or vendor reputation
   - Own experience
   - Sales people opinion
   - Colleague’s opinion
   - Customer’s opinion
   - Sales history

   Small companies use more own knowledge & customer’s opinion.
   Big companies use sample styles & merchandising concepts. Other
   are used by all companies.

2. Constraints of Style Qualitative Evaluation
   - Difficulty of matching a satisfactory style with a satisfactory price
   - The discrepancy between past & future styles
   - Finding products matching with a merchandising concept
     (It it is too difficult, there is problem with merchandising concept.)
   - Too many variation in assortment
   - Time constraint as covering too many products by one buyer.
   - Fast fashion change
   - Not much constraint due to trying a lot of testing before the season.
Figure 8-34. Practical Assortment Planning Model: Style Qualitative Evaluation Process (A411-A418) (Continued)
Figure 8-35. Practical Assortment Planning Process: Style Qualitative Evaluation (A414, A4142-A4145) (Continued)
1. Note A415-3
Small companies buy and display small amount of certain styles in the beginning of the season and get feedback from customers and sales people.

2. Note A415-4
Style-out is not an usual method by buyers, but a buyer suggested that some other companies used this method had positive results. Style-out calls the evaluation meeting that colleagues & managers meet to critic product samples or pictures to find what seems to be key styles.

Figure 8-36. Practical Assortment Planning Process: Style Qualitative Evaluation (A415, A4151-A4154) (Continued)
Consider the product price

Compare the design of styles to price

Compare the material quality to price

The material quality compared to price

The style quality compared to price
1. Inputs of Color Qualitative Evaluation
   - Color information search outputs
   - Merchandising concept or color palette
   - Vendor’s opinion, offering colors, & pre-packs
   - Style qualitative evaluation outputs
   - Fashion-ability of products
   - Sales potential of product
   - Color quality related to fabric
   - Sales people opinion
   - Customer opinion
   - Sales history
   Small companies more depend on vendor’s opinion, sales people opinion & customer opinion. Big companies more use merchandising concept or color palettes to decide colors of products.

2. Constraints of Color Qualitative Evaluation
   - Difficulty of finding new colors from old vendors
   - Limit in color choices when it is pre-packed
   - Limit of test-run in big companies
   - Involvement of subjective color taste

Figure 8-38. Practical Assortment Planning Model: Color Qualitative Evaluation (A42) Diagram
Figure 8-39. Practical Assortment Planning Model: Color Qualitative Evaluation Process (A421-A428) (Continued)
Figure 8-40. Practical Assortment Planning Process: Color Qualitative Evaluation (A421, A4211-A4213) (Continued)
Consider if vendors offer the colors in palette

- Ask availability of colors in palettes
- Vendor's offer

- Matched colors from vendors
- New color palette

- Rearrange color palette if having too many conflicts

- Conflicts in color choice

- Limit of choice from when colors pre-packed

- Difficulty of finding colors from old vendors

- Matched colors from vendors

Figure 8-41. Practical Assortment Planning Process: Color Qualitative Evaluation (A422, A4221- A4222) (Continued)
Figure 8-42. Practical Assortment Planning Process: Color Qualitative Evaluation (A423, A4231- A4232) (Continued)
Consider the sales potential of color with style sales potential

Have more color variation for high sales-potential style

Have one or two colors for uncertain sales-potential styles

Evaluate sales potential for the all colors

Sales potential of colors

Color variation for high sales potential style

Color information search output

Color variation for uncertain sales-potential style

Color information search output

Figure 8-43. Practical Assortment Planning Process: Color Qualitative Evaluation (A424, A4241-A4243) (Continued)
1. Note A4273
Small companies buy and display small amount of certain colors in the beginning of the season and get feedback from customers and sales people.

Figure 8-44. Practical Assortment Planning Process: Color Qualitative Evaluation (A427, A4271-A4273) (Continued)
1. Inputs of Color Qualitative Evaluation
- Size information search outputs
- Vendor’s opinion, size spec, pre-pack
- The fit related to style
- The fabric attribute

2. Constraints of Color Qualitative Evaluation
- Unsettled specs of new manufacturers
- Difficulty distinguishing size variation for each style
- Buyer’s low involvement due to time constraint
  (In big companies, inventory-control department decides the size range & amount based on sales history. Not much buyer’s job in size evaluation & selection.)
- Not detailed sales record for size evaluation
- No geographical information on size distribution
- Overstock or shortage due to pre-pack regulation

Figure 8-45. Practical Assortment Planning Model: Size Qualitative Evaluation (A43) Diagram
Define size range of target customer

Distinguish size range sold well in the past

Define needs for new size range

Define size range by fabric attribute

Consider vendor size offer

Consider style for size range

Watch fit of samples or actual products

Organize evaluation results

Buyer's low involvement

Node A437

- Small companies buy small amount of products in the beginning of a season & then observe how customers or sales people feel with the fit.
- Big companies develop samples in stead.

No geographical information regarding size

Past sales record

Not detailed sales record

Information search output

Own knowledge

Fabric attribute

Vendor opinion

Size spec

Size offering rule

Styles

Samples

Size qualitative evaluation results

Figure 8-46. Practical Assortment Planning Model: Size Qualitative Evaluation Process (A431-A438) (Continued)
Figure 8-47. Practical Assortment Planning Process: Size Qualitative Evaluation (A435, A4351-A4353) (Continued)
1. Constraint in Quantitative Evaluation
- Not advanced statistic method
- Difficulty of utilization of POS
- Fast fashion change
- Difficulty of decision when stop buying a product
- Difficulty in relationship with vendors
- When no sales history base

Evaluate the quantitative value of products

- Information search output
- A4 output
- Growth rate of business
- Open-to-buy dollars
- Sales history/Test-run results
- Promotion plan
- Product cost/Gross margin
- Numbers of stores
- Store characteristics
- Customer opinion
- Financial agreement with vendors

Quantitative evaluation results

Figure 8-48. Practical Assortment Planning Model: Quantitative Evaluation (A5) (Continued)
1. Inputs of Style Quantitative Evaluation
   - Style information search output
   - Style qualitative evaluation output
   - Growth rate of business
   - Open-to-buy dollars
   - Sales history
   - Remained stock level
   - Test-run results
   - Seasonality
   - Promotion plan
   - Price/ Cost/ Gross margin/ Mark-up/ Mark-down
   - numbers of stores
   - Store characteristic (e.g., size, location, & fashion-ability)
   - Financial agreement with vendors

2. Constraints of Style Quantitative Evaluation
   - Not much use of advanced statistic methods
   - Needs for advanced technology (e.g., updated computer system)
   - Unpredictable weather change
   - When no history base
   - Difficulty of utilization of POS due to long time advance plan
   - Fast fashion change
     (Big companies usually give up short time fashion items due to long time advance plan.)
   - Minimum quantity obligation from vendors
     (Small companies have more trouble with this regulation & avoid buying from the vendors having this regulation.)

Figure 8-49. Practical Assortment Planning Model: Style Quantitative Evaluation (A51) Diagram
1. **Note A518**
   - Buyers usually don't use a whole evaluation sheet, but potential profit & sales history reports are given by inventory department people, manager, or vendors.

2. **Note A517**
   - Examples of financial agreement mentioned in this research are minimum quantity, return-back guarantee, mark-down coverage, or lowest cost guarantee.

**NODE:** A517 & A518  **TITLE:** Style quantitative evaluation  **NO.:** 1 & 2

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**Figure 8-50. Practical Assortment Planning Model: Style Quantitative Evaluation Process (A511-A518) (Continued)**
Figure 8-51. Practical Assortment Planning Process: Style Quantitative Evaluation (A511, A5111- A5112) (Continued)
Figure 8-52. Practical Assortment Planning Process: Style Quantitative Evaluation (A512, A5121-A5123) (Continued)
Figure 8-53. Practical Assortment Planning Process: Style Quantitative Evaluation (A513, A5131-A5134) (Continued)

1. Note A513-1
The remained stock level is important to decide stock level. The remained stock level can be considered with sales potential of the style for the next season. In some case, few companies (especially, big companies) said that they keep basic styles year around (e.g., denim shirt) but change colors by garment dye every season.

2. Note A513-2
Several interviewees said that they use Gross Margin & numbers of reorder as sales pattern index.
Figure 8-54. Practical Assortment Planning Process: Style Quantitative Evaluation (A514, A5141-A5144) (Continued)
Figure 8-55. Practical Assortment Planning Process: Style Quantitative Evaluation (A516, A5161-A5164) (Continued)
Figure 8-56. Practical Assortment Planning Process: Style Quantitative Evaluation (A5161, A51611-A51613) (Continued)
1. Inputs of Color Quantitative Evaluation
- Color information search output
- Color qualitative evaluation output
- Style quantitative evaluation output
- Open-to-buy dollars
- Sales history
- Remained stock level
- Test-run results
- Seasonality
- Numbers of styles
- Fashion-ability of style

2. Constraints of Color Quantitative Evaluation
- Unpredictable weather change
- Something with no history base
- Fast fashion change
  (Big companies usually give up short time fashion items due to long time advance plan.)
- Minimum quantity obligation or pre-packed colors from vendors
  (Small companies have more trouble with this regulation & avoid buying from the vendors having this regulation.)

Figure 8-57. Practical Assortment Planning Model: Color Quantitative Evaluation (A52) Diagram
Figure 8-58. Practical Assortment Planning Model: Color Quantitative Evaluation Process (A521-A527) (Continued)
Figure 8-59. Practical Assortment Planning Process: Color Quantitative Evaluation (A522, A5221-A5223) (Continued)
Figure 8-60. Practical Assortment Planning Process: Color Quantitative Evaluation (A523, A5231-A5233) (Continued)
Figure 8-61. Practical Assortment Planning Process: Color Quantitative Evaluation (A525, A5251-A5253) (Continued)
1. Inputs of Size Quantitative Evaluation
- Size information search output
- Size qualitative evaluation output
- Style quantitative evaluation output
- Color quantitative evaluation output
- Open-to-buy dollars
- Sales history
- Remained stock level
- Test-run results
- numbers of styles & colors
- Fit of style

2. Constraints of Size Quantitative Evaluation
- Something with no history base
- Minimum quantity obligation or pre-packed colors from vendors
  (Small companies have more trouble with this regulation & avoid buying from the vendors having this regulation.)
- Size spec difference among vendors (e.g., Europe size spec)

Figure 8-62. Practical Assortment Planning Model: Size Quantitative Evaluation (A53) Diagram
Figure 8-63. Practical Assortment Planning Model: Size Quantitative Evaluation Process (A531-A537) (Continued)
Analyze percentage of past sizes

Analyze size sales pattern past years

Growth rate of business

Sales history

Remained stock level

Sales history

Remained stock level

Growth rate of business

Analyze percentage of past sizes

Define percentage of usual sizes

Percentage of usual sizes

Percentage of usual sizes

Remained stock level

Growth rate of business

Figure 8-64. Practical Assortment Planning Process: Size Quantitative Evaluation (A532, A5321- A5322) (Continued)
Analyze percentage of previously tested or new sizes

Track percentage of sold units by order units when previously tested

Predict sales potential of new sizes when not previously tested

Define sales potential of tested or new sizes

Test-run results

A531 output open-to-buy dollars

A532 output

A33 output

No history base

Percentage of tested or new sizes

A5331

A5332

A5333

A534

A537

A531 output

A532 output

A531 output open-to-buy dollars

A534

A537

Figure 8-65. Practical Assortment Planning Process: Size Quantitative Evaluation (A533, A5331-A5333) (Continued)
Figure 8-66. Practical Assortment Planning Model: Product Selection (A6) (Continued)
1. Inputs of Style selection
   - Style qualitative evaluation output
   - Style quantitative evaluation output
   - Merchandising concept
   - Depth & width of assortment
   - Vendor opinion

2. Constraints of Style Selection
   - Tendency of being subjective
   - When difficult to find styles in merchandising concept (rare problem)

Figure 8-67. Practical Assortment Planning Model: Style Selection (A61) Diagram
Figure 8-68. Practical Assortment Planning Model: Style Selection Process (A611-A616) (Continued)
Figure 8-69. Practical Assortment Planning Process: Style Selection  (A613, A6131-A6133) (Continued)
Figure 8-70. Practical Assortment Planning Process: Style Selection (A616, A6161-A6163) (Continued)
1. Inputs of Color selection
- Color qualitative evaluation output
- Color quantitative evaluation output
- Merchandising concept or color palettes
- Depth & width of assortment
- Style selection

2. Constraints of Color Selection
- Tendency of being subjective
- When difficult to find colors in color palettes

Figure 8-71. Practical Assortment Planning Model: Color Selection (A62) Diagram
Figure 8-72. Practical Assortment Planning Model: Color Selection Process (A621-A625) (Continued)
Figure 8-73. Practical Assortment Planning Process: Color Selection (A623, A6231-A6233) (Continued)
Figure 8-74. Practical Assortment Planning Process: Color Selection (A624, A6241-A6243) (Continued)

- **A6241**: Select basic or pre-tested colors for each style, especially for trendy style.
- **A6242**: Select new colors for each style, especially for basic style.
- **A6243**: Ask vendors availability of selected colors.
- **A624**: Rank priority colors to buy.
- **A625**: Tendency of being subjective.
Figure 8-75. Practical Assortment Planning Process: Color Selection (A625, A6251-A6252) (Continued)
1. Inputs of Size selection
- Size qualitative evaluation output
- Size quantitative evaluation output
- Depth & width of assortment
- Style selection
- Color selection

Figure 8-76. Practical Assortment Planning Model: Size Selection (A63) Diagram
Figure 8-77. Practical Assortment Planning Model: Size Selection Process (A631-A637) (Continued)
Figure 8-78. Practical Assortment Planning Model: Order Quantity Determination (A7) (Continued)
Figure 8-79. Practical Assortment Planning Model: Order Quantity Determination Process (A71-A77)

(Continued)