CHAPTER 5: RESULTS

This chapter reports the results from the tests conducted to answer the research questions posed in this dissertation. It provides information that is used to provide implications and contributions of this dissertation with regard to the practices and research field. As described in the previous methodology chapter, the chapter discusses results from the major data collection procedures: preference survey of shoppers, and interviews with designers, developers, and managers of shopping environments.

The results from the preference survey of shoppers are based on the analysis of the most and the least preferred scenes, analysis of the preference dimension, content analysis of scene description data, analysis of the relationship between preference and the perceived importance of shopping attributes, and the analysis of differences in preference by shopping behaviors and socio-economic backgrounds. The results from interviews with designers, developers, and managers of shopping environments are based on the analysis of the interview data.

The results are discussed in the following order. First, the results based on environmental characteristics influencing preference are described. This section discusses the results from the analysis of the most and least-preferred scenes, as well as the results from the analysis of the preference dimension. The results of these two analyses are triangulated by the results from content analysis of the scene description survey. Second, the results of the analysis of the relationships between the preference for shopping environments and perceived importance of shopping attributes are reported. Third, the results of the relationship between respondents' shopping behavior and socio-economic backgrounds and the preferences for different shopping environments are discussed. This section examines the influences of both shopping behaviors and socio-economic backgrounds of respondents on preference. Fourth, results from an analysis of interview data are reported, including a comparison with the previous results of the perceptions and preferences of shoppers. Finally, all results are concluded in response to the research questions.

I. The Environmental Characteristics Influencing Preferences for Shopping Environments

The environmental characteristics that influence preference for shopping environments are examined by common characteristics in two analyses: an analysis of most-and least-preferred scenes, and an analysis of preference dimension of preference. The most- and least-preferred scenes were derived by ranking the preference means of the scenes. Preference dimensions are derived from factor analysis. Analysis and comparison of common characteristics was conducted on both the most-and least-preferred scenes and the preference dimensions. Content analysis of the scene description survey was used to confirm the preferred characteristics derived from the above analyses.

Both analyses were conducted with the same procedures. First, the scenes were examined by the researcher to identify the common characteristics. The characteristics of the scenes were examined according to the following categories: spatial configuration, organization and display of physical elements, physical content, and environmental condition. Spatial configuration is the way that spaces, structures, and enclosure are organized. Organization and display of physical elements is the way that physical elements are arranged and displays. Physical content denotes things present in the scenes. Environmental condition refers to temporary characteristics of the environments, such as lighting and people. Second, content analysis of the scene description survey was examined to help confirm the characteristics identified by the researcher. Third, the most frequent comments on characteristics among groups of scenes were compared to identify the common characteristics that caused differences in preferences. Each of these results is reported in more detail in the following sections.

1. Analysis of the Most and Least Preferred Scenes

This section described the analysis of the most and least preferred scenes. From the total of 51 scenes, 22 were traditional and 29 were modern. At first, the most- and least- preferred scenes of all of the environments were ranked. The rank showed that the most- preferred scenes were modern shopping environments, while the least-preferred scenes were traditional markets. The only exception is that scene 12 from traditional markets ranks fourth on the overall most-preferred scenes. Scene 12 depicts a store in the weekend market selling large amounts of small plants. The small plant products are relatively well-organized and fully shown on the shelves that fill the wall. One small plant set up is placed beside the walkways on the opposite side with the

store.   After examination, the reason for high preference tends to be that the scene contains a high level of green vegetation.

To gain insight into each type of shopping environment, it is most informative to analyze the most- and least-preferred scenes of traditional and modern environments separately. Thus, the scenes from each type of shopping environment were ranked by their means. Eight of the most- and least-preferred scenes of each set of environments were analyzed according to their common characteristics.

The Most-Preferred Scenes from Traditional Markets

The following results consist of analysis of characteristics done by the researcher and analysis of respondents' comments on some of the most-preferred scenes from traditional markets. To confirm the researcher's assessment, the content analysis from the survey respondents' scene descriptions was also examined. These are reported under the description category in Figure 5.1—The Most-Preferred Scenes from Traditional Markets.

Figure 5.1: The Most-Preferred Scenes from Traditional Markets

Rank	Information	Image	Description
1	**Scene no.12** **Mean 3.29** **SD. 1.15**		**Subtype:** Weekend market **Spatial Configuration:** Oblique view of one large store and narrow isle **Content:** large number of small plants (products) displayed in the store **Note:** Green, small plant products
2	**Scene no. 1*** **Mean 3.07** **SD. 1.22**		**Subtype:** Fresh market **Spatial Configuration:** Almost straight view of dark small narrow isle with stalls on both sides. Small lights above stalls **Content:** Fruits, neatly displayed **Note:** Neat display **Respondent's Comments:** Neat, want to be there, tight space, variety of products, clean, fruits, hot, and low price.
3	**Scene no. 13** **Mean 2.95** **SD. 1.10**		**Subtype:** Weekend market **Spatial Configuration:** Straight view of narrow isle with stall on one side. Natural light. Bright light at the end of the isle. **Content:** Displayed fruits **Note:** Colorful fruits

4	**Scene no. 3** **Mean 2.83** **SD. 1.11**	**Subtype:** Fresh market **Spatial Configuration:** Oblique view of stalls, no visible isle **Content:** Display of ready to eat fruits on plastic wrapped plates **Note:** Exposed fruits
5	**Scene no. 4** **Mean 2.71** **SD. 1.18**	**Subtype:** Fresh market **Spatial Configuration:** Straight view of dark narrow isle with lighted stalls on both side **Content:** Fruits **Note:** Dark
6	**Scene no. 17** **Mean 2.67** **SD. 1.27**	**Subtype:** Weekend market **Spatial Configuration:** straight view of narrow isle with vegetation and sitting area on one side **Content:** Vegetation, sitting area, furniture, natural light **Note:** Dense green
7	**Scene no. 2** **Mean 2.64** **SD. 1.19**	**Subtype:** Fresh market **Spatial Configuration:** straight view of (crowded) narrow isle with stalls on both sides. Light columns and dark fabric roof **Content:** Foods, fruits, light from light bulbs, people **Note:** Dark
8	**Scene no. 16*** **Mean 2.58** **SD. 1.31**	**Subtype:** Weekend market **Spatial Configuration:** Straight view of narrow isle with vegetation and sitting area on one side **Content:** Vegetation, sitting area, sitting people, natural light **Note:** Restful **Respondent's Comments:** Narrow isles, tight space, crowded, trees, shady, disordered, don't want to be there, natural and hot.

* Indicates the scenes used in scene description survey

The Researcher's Analysis

The most-preferred scenes from traditional environments contain the following characteristics. Most of the highly preferred traditional scenes depict an aisle view of weekend and fresh markets, with products on the side. The spatial configurations consist of narrow aisles, with small stores and product stalls on at least one side. The structural elements appearing in the scenes are small-scale structures consisting of small columns and roofs without a wall. The configurations are

generally clear between aisles and product stalls. The stalls and products are well-organized and neatly displayed.

Most of the scenes show fresh fruit products except Scene 12 (ranked 1st), Scene 17 (ranked 6th) and scene 16 (ranked 8th), which show a high level of vegetation. Scene 16 and 17 have a narrow strip of common area with vegetation and sitting areas on one side and stores on the other. This narrow strip provides an extra space for vegetation and sitting areas. The common contents of the scenes are fruits (5 out of 8 scenes) and vegetation (3 out of 8). The fruits are fully exposed, colorful, and neatly displayed. Vegetation includes green plants in a strip of common space (scene 16 and 17) and small plant products (scene 12). The lighting conditions of fresh markets are relatively dark; products are lit by small light bulbs except one is lit by fluorescent light (scene 4). All of the fresh market scenes are indoors, while weekend market scenes are mostly semi-indoors. Weekend markets are well shaded but show some visible sources of natural light (scene 13, 17, and 16). A small to moderate number of people is present in the scenes.

In general, these scenes are visually complex, containing a large number of different elements. However, the way that elements, mostly products, are organized and displayed makes the scenes more coherent. The clear distinction between stalls and aisles makes it easy to make one's way around and access the products. Therefore, the scenes are legible. Coherence and Legibility tend to play important parts in the high preference for these scenes. The neat displays make the products attractive and make the scenes preferred. The colorful fruit products and vegetation in these scenes are well liked. They are positive elements that increase preference for the scenes.

The Respondent's Comments

Data from content analysis of free comment scene description survey from 2 scenes (1 and 16) show the following results, as presented in Table 5.1—Respondents' Comments on the Most-Preferred Scenes from Traditional Markets.

From the content analysis of respondents' comments provided above, the results show that people made comments most on spatial configuration, followed by organization and display of elements, atmospheric character, physical content, overall assessment, environmental condition, and, least, on convenience. It is worth noting that the respondents noticed and commented on aspects of the scenes beyond the visible elements that they contained. The respondents commented on non-visible aspects such as high quality of products, low price, and hot temperature.

Table 5.1: Respondents' Comments on the Most-Preferred Scenes from Traditional Markets

Most Preferred Traditional Scenes	Scene no:1 Mean = 3.07		Scene no: 16 Mean = 2.58			
Categories	Positive	Negative	Positive	Negative	Total	Average
Spatial Configuration	**12**	**73**	**6**	**208**	**299**	**149.5**
Tight/ Closed		73		103	176	88.0
Narrow/ Small Walkways				105	105	52.5
Clear/ Spacious	12		6		18	9.0
Organization and Display	**145**	**32**	**8**	**54**	**239**	**119.5**
Neat/ Well Organized/ Ordered	131		8		139	69.5
Disordered/ Chaotic		23		42	65	32.5
Obtrusive		9		12	21	10.5
Eyes Catching/ Interesting	14				14	7.0
Physical Content	**92**		**95**		**205**	**102.5**
Large Selection/ Variety	61		11		72	36.0
Trees			48		48	24.0
Fruits	31				31	15.5
Low Price	19		6		25	12.5
Available Seats			19		19	9.5
High Quality	10				10	5.0
Atmospheric Character	**54**	**12**	**106**	**34**	**206**	**103.0**
Clean	44		7		51	25.5
Calm/ Quiet/ Relax/ Shady	5		43		48	24.0
Natural/ Fresh			32		32	16.0
Dirty/ Old/ Poor		12		9	21	10.5
Intimate/ Warm	2		13		15	7.5
Dangerous/ Scary/ Drug Use/ Crime				14	14	7.0
Pleasant/ Beautiful/ Romantic/ Good Atmosphere	3		11		14	7.0
Bad Hangout				11	11	5.5
Environmental Condition	**8**	**27**	**18**	**80**	**133**	**66.5**
Hot		23		31	54	27.0
Crowded		4		49	53	26.5
Cool	8		18		26	13.0
Convenience	**13**	**4**	**5**	**11**	**33**	**16.5**
Convenient	13		5		18	9.0
Inconvenient		4		11	15	7.5
Overall Assessment	**92**	**13**	**35**	**34**	**174**	**87.0**
Want to be There	85		24		109	54.5
Don't want to be there		13		34	47	23.5
Like	7		11		18	9.0
Total	**416**	**161**	**273**	**421**	**1289**	**644.5**

The most-preferred traditional markets received positive comments on physical content, organization and display, atmospheric character, and overall assessment respectively. The most common comment on physical content was on the large selection and variety of products, specifically fruits. The positive comments on organization drew attention to neat and well-organized displays. Specific positive comments on atmospheric character included such terms as clean, calm/ relaxed/ shady, and natural. Low price and high quality of fresh products were also

mentioned as positive characteristics. Additional positive comments drawing attention to trees and seats were provided at lower frequency.

Although preference for these scenes received some negative comments on spatial configuration and environmental conditions such as tight, closed, and crowded spaces, they received more positive comments. A positive preference is confirmed by the high frequency of positive overall assessments such as "want to be there." There was high agreement on the positive characteristics of these most-preferred scenes based on analysis of the researcher and comments from the respondents. The agreement is on positive characteristics of spatial configurations such as neat and well organized, and scene content such as fruits and trees. Negative characteristics such as tight, closed and narrow spaces are also evident.

The Common Agreement

After comparing the analysis of the researcher's and the respondents' comments, it can be concluded from both analyses that the most preferred characteristics of traditional environments are neat organization, large selection of fresh and high quality products, low prices, a relatively clean and calm environment, natural elements such as trees, and available seats. If these above characteristics are present in the scenes, they are likely to be preferred, at least with regard to traditional market environments.

The Least-Preferred Scenes from Traditional Markets

The following results are provided by the analysis of characteristics by the researcher and the respondents' comments on some of the least-preferred scenes from Traditional markets. To confirm the researcher's assessment, the data from the content analysis from the survey respondents' scene descriptions were also examined. The analysis of characteristics is reported under the description category in Figure 5.2—The Least-Preferred Scenes from Traditional Markets.

Figure 5.2: The Least-Preferred Scenes from Traditional Markets

Rank	Information	Image	Description
1	**Scene no. 22** **Mean 1.97** **SD. 1.05**		**Subtype:** Weekend market **Spatial Configuration:** Crowded open air space with platform and steps **Content:** Sitting people, walking people, umbrella, natural light **Note:** Crowded, disordered
2	**Scene no. 21** **Mean 2.22** **SD. 1.10**		**Subtype:** Weekend market **Spatial Configuration:** Crowded walkway beside open area **Content:** Walking people, sitting people, umbrellas, natural light **Note:** Crowded, disordered
3	**Scene no. 10** **Mean 2.10** **SD. 1.12**		**Subtype:** Sidewalk product display **Spatial Configuration:** Narrow pedestrian walk with displayed products, overhung fabric canopy **Content:** Plastic containers, natural light, products placed outside the store **Note:** Disordered, obtrusive
4	**Scene no. 18*** **Mean 2.12** **SD. 1.12**		**Subtype:** Weekend market **Spatial Configuration:** Open space, open air surrounded by umbrellas **Content:** Walking people, umbrella, shadow on the floor, sun light **Note:** Open space, outdoor **Respondent's Comments:** Hot, crowded, disordered, tight space, don't want to be there, variety of products, spacious, and don't like
5	**Scene no. 19** **Mean 2.16** **SD. 1.15**		**Subtype:** Weekend market Spatial Configuration: **Unclear tight and crowded area, no isle visible** **Content: People, cloth products, umbrellas** **Note:** Crowded, disordered
6	**Scene no. 15** **Mean 2.22** **SD. 1.11**		**Subtype:** Weekend market **Spatial Configuration:** Straight view of narrow isle with sitting and low stall on one side **Content:** Small dry products, people, bench, partly outdoor **Note:** a little messy, crowded
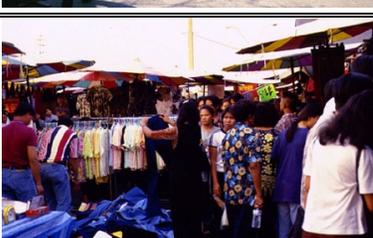
7	Scene no. 7* Mean 2.23 SD. 1.10		**Subtype:** Sidewalk venders **Spatial Configuration:** Street side product display, outdoor **Content:** Clothes, people, natural light **Note:** On the street, disordered, obtrusive **Respondent's Comments:** Disordered, crowded, hot, obtrusive, variety of products, tight space, low price, dangerous, streetside, and convenient
8	Scene no. 20 Mean 2.25 SD. 1.17		**Subtype:** Weekend market **Spatial Configuration:** Straight view of narrow isle with stalls on one side and sitting area on the other, outdoor **Content:** Sitting people, small dry products, closed umbrella **Note:** A little crowded

* Indicates the scenes used in scene description survey

The Researcher's Analysis

The least-preferred scenes among the traditional markets have the following characteristics. Most scenes were of outdoor, weekend markets, except scenes 10 and 7, which depicted pedestrian walk venders. The spatial configurations tend to be tight and closed. Whether open or closed, the spaces seem to lack order. The organization and order of product stalls and aisles is not optimum. Circulation areas are obstructed by elements from product stalls. Products are poorly organized and displayed.

The common contents of the scenes tend to be mostly clothes and small dry products. The products are poorly organized, fully exposed, and seem randomly displayed. The areas are generally well lit by natural light; many scenes are in the sunlight. Most of the scenes are crowded, with a large number of people present. The scenes seem to be filled with people and products to the extent that walkways or aisles are hardly visible.

In general, these scenes are visually very complex. There is a lack of order in products and people contained in the scenes. The environments depicted in the scenes are crowded; it seems to find the way between people and products, especially when the distinction between aisles and stores is not clear. These disordered characteristics make the scenes less coherent and less legible. Moreover, the obstructed elements make it difficult to form a cognitive map of the spaces, thus reducing preference. There is no positive element in these scenes that increases preference. There are places to sit in some scenes (scene 22, 21, 15 and 20); however, crowded and tight conditions make these places unattractive. In addition, the places to sit are steps, which

are not comfortable places to sit. Neither the products nor their displays are attractive. These scenes do not contain preferred content; thus, they are not preferred among traditional markets.

The Respondents' Comments

The data from people's verbal comments on scene 7 and 18, which were among the 10 least-preferred scenes, provide supports for these observations.   The comments are reported in Table 5.2—Respondents' Comments on the Least-Preferred Scenes from Traditional Markets.

Table 5.2: Respondents' Comments on the Least-Preferred Scenes from Traditional Markets

Least Preferred Traditional Scenes	Scene no: 18 Mean = 2.12		Scene no: 7 Mean = 2.23			
Categories	Positive	Negative	Positive	Negative	Total	Average
Spatial Configuration	**27**	**51**	**23**	**39**	**140**	**70**
Tight/ Closed		51		39	90	45
Clear/ Spacious	21		11		32	16
Wide/ Large Walkways	6		12		18	9
Organization and Display		**81**		**146**	**227**	**113.5**
Disordered/ Chaotic		81		104	185	92.5
Obtrusive				42	42	21
Physical Content	**48**	**10**	**93**		**151**	**75.5**
Large Selection/ Variety	36		42		78	39
Low Price	12		35		47	23.5
Clothes			16		16	8
No Roof		10		2	12	6
Atmospheric Character		**22**		**65**	**87**	**43.5**
Dangerous/ Scary/ Drug Use/ Crime		4		29	33	16.5
Dirty/ Old/ Poor		18		9	27	13.5
Street Side				27	27	13.5
Environmental Condition		**312**		**154**	**466**	**233**
Hot		194		57	251	125.5
Crowded		118		97	215	107.5
Convenience	**8**	**11**	**19**	**6**	**44**	**22**
Convenient	8		19		27	13.5
Inconvenient		11		6	17	8.5
Overall Assessment	**11**	**55**	**10**	**32**	**108**	**54**
Don't want to be there		38		16	54	27
Don't Like		17		16	33	16.5
Want to be There	11		10		21	10.5
Total	**94**	**542**	**145**	**442**	**1223**	**611.5**

Respondents' comments on the least-preferred scenes from traditional markets dealt mostly with the environmental condition of the places, followed by organization and display, spatial configuration, overall assessment, physical content, atmospheric character, and convenience. The comments are mostly negative, which justifies the low preference rating. Frequent negative

comments are made on environmental conditions (such as hot and crowded); on organization and display (such as disordered and obtrusive); on spatial configuration (such as tight and closed space); and on atmospheric character (such as dangerous, and poor maintenance). The low preference is confirmed by frequent comments on negative overall assessment such as: don't want to be there, and don't like. The most frequent negative comments were: hot, crowded, lack of order, tight space, and don't want to be there.

The Common Agreement

The comments were similar to observations made by the researcher. There was agreement on spatial configuration, such as tight and closed space, poorly organized space, and obtrusive arrangement. The crowded conditions proved to be an important factor in both analyses. In addition, respondents also frequently commented on the hot weather, since there seemed to be very little protection against the weather. Clearly, the least-preferred traditional markets were less preferred because of their negative environmental conditions and poor organization and display, leading to other consequential comments such as negative atmospheric character and overall assessment.

In conclusion, traditional environments are less preferred when their spatial configuration and environmental conditions are perceived as negative. Their lack of positive elements (such as seats and vegetation) also contributed to the low preference rating.

The Most-Preferred Scenes from Modern Malls

The following results are based on by the analysis characteristics from all of the most- preferred scenes by the researcher and the respondents' comments on some of the most- preferred scenes of modern malls. To confirm the researcher's assessment, the data from the content analysis from the survey respondents' scene descriptions were also examined. The analysis of characteristics is reported under the description category in Figure 5.3—The Most-Preferred Scenes from Modern Malls.

Figure 5.3: The Most-Preferred Scenes from Modern Malls

Rank	Information	Image	Description
1	**Scene no. 40*** **Mean 3.78** **SD. 1.10**		**Subtype:** Central space of shopping mall **Spatial Configuration:** open area, multilevel, spacious **Content:** Palm trees, sitting areas **Note:** Clean, nice, spacious **Respondent's Comments:** Spacious, relaxing, clean, seats, pleasant, comfortable, cool, want to be there, and trees
2	**Scene no. 42** **Mean 3.50** **SD. 1.01**		**Subtype:** Central space of shopping mall **Spatial Configuration:** view from top floor looking out into open area, spacious, multilevel **Content:** Escalator, palm trees, columns, skylight **Note:** Spacious, detailed
3	**Scene no. 39*** **Mean 3.30** **SD. 1.04**		**Subtype:** Shopping mall area with carts **Spatial Configuration:** Open area, low ceiling, spacious **Content:** Carts, people, zigzag pattern floor, fluorescence light **Note:** Spacious, informal, carts **Respondent's Comments:** Spacious, clean, wide walkway, want to be there, cool, well lit, well organized, comfortable, and pleasant
4	**Scene no. 49** **Mean 3.28** **SD. 1.17**		**Subtype:** Outdoor center **Spatial Configuration:** Open area, outdoor, moderately spacious walkway **Content:** Small trees and plant bed, café with sitting areas, light pole, paved floor **Note:**
5	**Scene no. 32** **Mean 3.26** **SD. 1.09**		**Subtype:** Walkway of shopping mall **Spatial Configuration:** Wide walkway, multilevel, moderately spacious **Content:** Sitting areas, table and chair, part of café, column, escalator **Note:** Clean, café
6	**Scene no. 30*** **Mean 3.25** **SD. 1.05**		**Subtype:** Walkway in shopping mall **Spatial Configuration:** Almost straight view of wide walkway **Content:** Sitting bench, sitting people, a stall **Note:** Sitting areas **Respondent's Comments:** Seats, cool, comfortable, clean, spacious, well organized, want to be there, and not crowded

7	Scene no. 24 Mean 3.25 SD. 1.14		**Subtype:** Central area of shopping mall **Spatial Configuration:** Spacious, low ceiling **Content:** Colored floor and ceiling, festive decorated ceiling **Note:** Colorful, spacious
8	Scene no. 41 Mean 3.23 SD. 1.13		**Subtype: Shopping mall walkway** **Spatial Configuration:** Upper level walkway and open well, bridge across open well, moderately spacious **Content:** Column, exposed steel structure, part of palm leaves, skylight **Note:** Clean and well lit

* Indicates the scenes used in scene description survey

The Researcher's Analysis

The most-preferred scenes from modern malls have the following characteristics. Most of the scenes are taken from common or central areas in enclosed shopping malls, except scene 49, which is an outdoor center. The spatial configuration tends to be characterized by spacious common areas and wide walkways. 6 out of 8 scenes depict open and connected spaces between central areas and walkways. The scenes show a high amount of depth, as well as continuing space toward both sides. The central spaces have high ceilings or are vertically connected with the spaces of the above floors. The organization of physical elements contained in these scenes tends to be well-ordered, showing clear spaces and walkways without obstructive products on the circulation areas.

The most-preferred scenes often contain vegetation such as palm trees. Four of the scenes have sitting areas, two of which are parts of cafés, while the rest contain benches in the common areas. The scenes tend to be well lit. Half of the scenes are lit by natural light, with visible skylights in some of the scenes (scene 41 and 42). None of the scenes is crowded. All of the scenes show a small number of people in relatively large spaces. The areas look well-maintained and clean, as evidenced by the shiny floors.

In general, the most-preferred modern mall scenes are spacious and visibly well-connected to larger areas, which provides further visibility and the possibility to wander through the spaces. The spaces are well organized and well maintained. These well-organized elements made the spaces more coherent. The clear definition of circulation areas also makes the scenes legible. These most-preferred modern malls also contain physical elements such as vegetation and sitting

areas. These elements sometimes partially block the view, making the scenes high in mystery.
All of the above characteristics contribute to the high preference for these scenes.

The Respondents' Comments

The data from the free comments of the respondents also provided insightful information. The
common comments made for some of the scenes in this group are reported in Table 5.3—
Respondents' Comments on the Most-Preferred Scenes from Modern Malls.

**Table 5.3: Respondents' Comments on the Most-Preferred Scenes from Modern
Malls**

Most Preferred Modern Scenes	Scene no: 40 Mean = 3.78		Scene no: 39 Mean = 3.30		Scene no: 30 Mean = 3.25			
Categories	Positive	Negative	Positive	Negative	Positive	Negative	Total	Average
Spatial Configuration	126		139		60		325	108.3
Clear/ Spacious	94		92		38		224	74.7
Wide/ Large Walkways	32		47		22		101	33.7
Organization and Display	32	6	38	51	36	18	181	60.3
Neat/ Well Organized/ Ordered	32		38		36		106	35.3
Disordered/ Chaotic		5		29		8	42	14.0
Obtrusive		1		22		10	33	11.0
Physical Content	118	3	23		162		306	102.0
Available Seats	68		4		153		225	75.0
Trees	41	3	1		2		47	15.7
Large Selection/ Variety	9		18		7		34	11.3
Atmospheric Character	354		142		111		607	202.3
Clean	77		65		39		181	60.3
Comfortable	60		34		43		137	45.7
Calm/ Quiet/ Relax/ Shady	90		10		7		107	35.7
Pleasant/ Beautiful/ Romantic/ Good Atmosphere	65		25		16		106	35.3
Luxury/ Modern/ New/ Fashionable	33		5		5		43	14.3
Natural/ Fresh	19		2				21	7.0
Meeting / Gathering Place	10		1		1		12	4.0
Environmental Condition	83	6	103	17	93	33	335	111.7
Cool	43		46		58		147	49.0
Light	30		42		10		82	27.3
Not Crowded	10		15		25		50	16.7
Dark/ Dim		4		5		27	36	12.0
For Teenager		2		12		6	20	6.7
Convenience	16		21		22		59	19.7
Convenient	16		21		22		59	19.7
Overall Assessment	81		58		50		189	63.0
Want to be There	42		47		34		123	41.0
Like/ Good	39		11		16		66	22.0
Total	810	15	524	68	534	51	2002	667.3

The most-preferred modern malls received the most comments on atmospheric character,
followed by environmental condition, spatial configuration, physical content, overall assessment,

and organization and display of physical elements. The comments were commonly positive. Specifically, the positive comments on atmospheric character were: clean, comfortable, calm and relaxing, and pleasant. The positive comments on organization and display were: neat and well organized; on spatial configuration, the comments were: clear, spacious, and wide walkways. It is important to note the positive comments on the presence of physical content of trees and seats. Additional positive comments were made on environmental conditions such as cool temperature, lighting, lack of crowding, and on convenience as convenient. High preference is also supported by frequent overall assessment comments, such as that the respondent likes the space and the respondent wants to be there. The most frequently mentioned preferred characteristics are: seats, clear and spacious arrangement, cleanliness, cool temperature, and comfortable environment.

The Common Agreement

The common comments are in agreement with the researcher's analysis of common characteristics. The commonly-agreed-upon positive characteristics are spacious, well-ordered, good maintenance, available seats, well lit, and vegetation. Additionally, the overall assessment and comments on atmospheric character are commonly positive, suggesting a positive attitude and pleasant mood toward the environments. In conclusion, the most-preferred scenes included positive characteristics such as spacious and well-connected spaces, well-ordered and maintained, and included positive elements such as sitting areas, and vegetation. These characteristics contribute to high preference for these modern malls.

The Least-Preferred Scenes from Modern Malls

The following results are based on by the analysis characteristics by the researcher and respondents' comments on some of the least-preferred scenes from modern malls. To confirm the researcher's assessment, the data from the content analysis from the survey respondents' scene descriptions were also examined. The analysis of characteristics is reported under the description category in Figure 5.4—The Least-Preferred Scenes from Modern Malls.

Figure 5.4: The Least-Preferred Scenes from Modern Malls

Rank	Information	Image	Description
1	**Scene no.34** **Mean 2.74** **SD. 1.13**		**Subtype:** Product containers in central areas of shopping mall **Spatial Configuration:** Narrow isle with stalls on both sides **Content:** Products, stalls **Note:** Sales, tight and dead ended space
2	**Scene no. 50** **Mean 2.76** **SD. 1.13**		**Subtype:** Outdoor center **Spatial Configuration:** Outdoor area with stores on one side and up front **Content:** A few people, part of a tree, small vegetation, natural light **Note:** dead ended space
3	**Scene no. 35** **Mean 2.77** **SD. 1.09**		**Subtype:** Shopping mall walkway **Spatial Configuration:** Relatively narrow walkway with stores on one side and product stalls on the other **Content:** Clothes, stalls, a few people Note: Dead ended
4	**Scene no. 46** **Mean 2.78** **SD. 1.04**		**Subtype:** Passage mall **Spatial Configuration:** Relatively narrow indoor walkway with stores on both side **Content:** CDs, people, clothes **Note:** Long corridor, blocked at the end
5	**Scene no. 36** **Mean 2.79** **SD. 1.08**		**Subtype:** Stall areas in shopping mall **Spatial Configuration:** Almost straight view of Open area with stalls on both sides, narrow isle **Content:** Clothes **Note:** Dark
6	**Scene no. 47** **Mean 2.92** **SD. 1.11**		**Subtype:** Passage mall **Spatial Configuration:** Straight view of relatively narrow indoor walkway with stores on both side **Content:** A few people, chairs **Note:** dead ended

7	Scene no. 43* Mean 2.93 SD. 1.12	**Subtype:** Food court **Spatial Configuration:** Straight view of narrow isle, food stalls on one side eating area on the other, low ceiling **Content:** Food stalls, sitting area, people sitting **Note:** Disordered, tight **Respondent's Comments:** Narrow walkway, tight space, variety of product, clean, disordered, crowded, want to be there, well organized, and dark
8	Scene no. 48 Mean 2.97 SD. 1.03	**Subtype:** Passage mall **Spatial Configuration:** Straight view of narrow walkway, low ceiling, with stores on both sides, deep corridor **Content:** Clothes, a few people **Note:** clothes, narrow, linear space

* Indicates the scenes used in scene description survey

The Researcher's Analysis

The least-preferred scenes from modern malls were parts of shopping malls and passage malls that consist of narrow spaces and contain products stalls, outdoor centers, and food courts. The least-preferred scenes from modern malls have the following characteristics. The spatial configuration tends to be characterized by narrow walkways between product stalls and tight, sometimes dead-end, closed spaces. The scenes, although not crowded, do not provide a visible connection to bigger spaces. The lack of order in product displays and obtrusive elements make the spaces look poorly maintained.

The common physical content of the least-preferred modern malls were exposed products on stalls or plain displays such as clothes on hangers. The products are mostly clothes with some other small, dry products. All of the scenes are indoors with artificial light except scene 50, which is in natural light. The overall environmental condition is relatively clean. The tight spaces and fewer activities present make the scenes seem quiet.

Generally, these scenes are modern malls that are comprised of narrow and tight spaces, which do not offer much possibility to see further or wander through the shopping areas. The lack of these possibilities makes the scenes low in mystery. Although product stalls are not very intrusive and the aisles are not very narrow, they are neither well-organized nor neatly displayed. However, the scenes are legible due to the clear definition between the circulation areas and other elements. Only one scene depicts plants and another contains sitting areas. Although these scenes are better preferred than the least-preferred scenes of the traditional markets, their lack of positive elements and closed spatial quality gave these scenes low preference.

The Respondent's Comments

The descriptions can be supported and enhanced by the data from respondents' verbal comments. The comments are made for one scene, which is neither the least-preferred nor very similar to other scenes. Therefore, some of the comments are scene-specific; however, others comments are based on common elements with other scenes. The most frequent comments on this scene are reported in Table 5.4—Respondents' Comments on the Least-Preferred Scenes from Modern Malls.

Table 5.4: Respondents' Comments on the Least-Preferred Scenes from Modern Malls

Least Preferred Modern Scenes	Scene no: 43 Mean = 2.93		
Categories	Positive	Negative	Total
Spatial Configuration		134	134
Narrow/ Small Walkways		74	74
Tight/ Closed		60	60
Organization and Display	32	44	76
Disordered/ Chaotic		44	44
Neat/ Well Organized/ Ordered	32		32
Physical Content	81	21	102
Large Selection/ Vairety	46		46
Not Enough Seats		21	21
High Quality	18		18
Available Seats	17		17
Atmospheric Character	44	10	54
Clean	44		44
No privacy		10	10
Environmental Condition		83	83
Crowded		38	38
Dark/ Dim		29	29
Smell		16	16
Convenience	28	10	38
Convenient	28		28
Inconvenient		10	10
Overall Assessment	34	12	46
Want to be there	34		34
Don't want to be there		12	12
Total	219	314	533

The least-preferred modern malls received the most comments on spatial configuration, followed by physical content, environmental condition, organization and display of physical elements, atmospheric character, overall assessment and convenience. Although some of the comments were positive, such as clean, large selection of products, and convenient, most of the frequent comments were negative. The most common negative comments were made on tight and closed

spatial configuration, crowded and dark environmental condition, and lack of order in organization and display of elements. The most frequent of all comments were: narrow walkway, tight space, lack of order, crowded, and dark.

The Common Agreement

The most frequent comments on these scenes agree with the researcher's analysis of common characteristics. There is agreement on the tight and closed space, poor organization and display, and relatively narrow circulation areas. Therefore, it can be concluded that modern malls are less preferred if they possess such negative characteristics.

Comparison of the Most Frequent Comments

To understand how the shoppers perceived the most and the least preferred scenes, the most frequent comments from the most and the least preferred scenes of both traditional and modern shopping environments are compared. The comparison of the most-mentioned categories on the most-and least-preferred scenes from both traditional and modern shopping environments are displayed in Table 5.5—Frequently Commented Categories.

Table 5.5: Frequently Commented Categories

Frequently Commented Categories				
	Modern		**Traditional**	
Categories	**Most Preferred**	**Least Preferred**	**Most Preferred**	**Least Preferred**
Ranked Frequency of Categories	(+) Atmospheric Character (+) Environmental Condition (+) Spatial Configuration (+) Physical Content (+) Overall Assessment (+) Organization and Display	(-) Spatial Configuration (+, -) Physical Content (-) Environmental Condition (-) Organization and Display (+) Atmospheric Character (+) Overall Assessment (+) Convenience	(-) Spatial Configuration (+) Organization and Display (+) Atmospheric Character (+) Physical Content (+) Overall Assessment (-) Environmental Condition	(-) Environmental Condition (-) Organization and Display (-) Spatial Configuration (-)Overall Assessment (+) Physical Content

The most-preferred scenes of both environments are also the most-preferred scenes from modern malls. They received positive comments in all categories. On the contrary, the least-preferred scenes of all, which are also the least-preferred traditional scenes, received negative comments on all categories except on physical content, due to the positive attitudes toward the displayed products. In the middle range, the most-preferred scenes from traditional markets received mostly positive comments except on spatial configuration and environmental condition. The least-preferred modern scenes received equal positive and negative comments. The positive

comments were made on physical content, atmospheric character, overall assessment, and convenience, while the negative comments were made on spatial configuration, environmental condition, and organization and display.

To indicate the differences, the most frequent comments on the most-and least-preferred scenes from both environments were compared by categories. The comparison is displayed in Table 5.6—Frequent Comments by Categories.

Table 5.6: Frequent Comments by Categories

Frequent Comments by Categories				
	Modern		Traditional	
	Most Preferred	Least Preferred	Most Preferred	Least Preferred
Spatial Configuration	Spacious Wide Walkway	Narrow Walkway Tight/ Closed	Tight/ Closed Narrow Walkway	Tight/ Closed
Organization and Display	Neat	Disordered	Neat	Disordered
Physical Content	Seat	Large Selection Not Enough Seat	Large Selection Trees	Large Selection Low Price
Atmospheric Character	Clean Comfortable Calm/Relax/Shady Pleasant	Clean	Clean Calm/Relax/Shady	
Environmental Condition	Cool Well lit	Crowded Dark	Hot Crowded	Hot Crowded
Convenience		Convenient		
Overall Assessment	Want to be there Like/ Good	Want to be there	Want to be there	Don't want to be there

Note: Each comment listed must have higher frequency than the lowest average frequency per scene per comment (22 of Most Preferred Traditional Scenes).

In comparison, modern malls are preferred due to their positive characteristics of spaciousness, neatness and high organization, and cleanliness. On the contrary, modern malls are also less preferred when they have tight spaces, disordered organization, and crowded environmental conditions. Traditional markets suffer from common negative characteristics such as tight and closed spaces, hot temperatures, and (sometimes) crowdedness. They are preferred when they have neat and colorful displays of fresh products in a well-organized and well-maintained space.

For modern mall scenes, positive characteristics such as spaciousness and tidy organization and display contribute to high preference. The pleasant atmospheric character derived from better maintenance and decoration results in positive comments such as: clean, comfortable, calm and relax, and pleasant spaces. The positive physical content, such as sitting areas and vegetation, also contributes to high preference for the most-preferred scenes from modern malls. On the

contrary, perceived negative characteristics, such as disordered, crowdedness, tight and closed space, and narrow walkways, make some modern mall scenes less preferred.

This tendency also applies to traditional markets. In general, the least-preferred scenes suffer from negative characteristics such as narrow walkways, tight and closed space, and lack of order and cleanliness. Within the traditional market scenes, better maintenance, cleanliness, neat organization and display, and positive contents such as fresh products, sitting areas, and vegetation result in higher preference.

2. Analysis of Preference Dimensions

This section describes the results from the analysis of preference dimensions, which were used to answer the research questions regarding perceived and preferred characteristics of shopping environments. As described in the methodology chapter, factor analysis procedure was used to identify dimensions or groupings of scenes to which people react similarly, thus indicating a cause stimulus. This analysis resulted in 5 dimensions or groupings of scenes. Some of the scenes load significantly on more than one dimension. However, the scenes that load on more than one dimension were placed only on the dimension on which they gained the highest loading.

Each dimension is examined in the following section. First, the common characteristics of each dimension were identified by the researcher, described according to the spatial configuration, physical content, and environmental condition. These common characteristics of each dimension contribute to the way that the dimension is perceived by the general public. To determine if the characteristics identified by the researcher match the characteristics perceived by the shoppers, the results from content analysis of verbal comments from respondents' scene descriptions were compared. The comments were made on a small set of scenes representing each dimension. Second, the characteristics of the dimensions and the most frequent comments on the dimensions were compared among dimensions to identify the characteristics that caused differences in preferences.

Dimension 1: Typical Modern Malls

The first dimension is comprised of scenes taken from walkways and common areas of modern environments, enclosed shopping malls. This dimension is titled "Typical Modern Malls". The scenes in this dimension are displayed in figure 5.5—Typical Modern Malls.

Figure 5.5: Typical Modern Malls

Dimension 1: Typical Modern Malls

Scene 25: Loading = .879	Scene 31: Loading = .821	Scene 29: Loading = .809
Scene 24: Loading = .773	Scene 44: Loading = .769	Scene 27: Loading = .753
Scene 33: Loading = .748	Scene 23: Loading = .676	Scene 32: Loading = .675
Scene 41: Loading = .662	Scene 37*: Loading = .654	Scene 30*: Loading = .644
Scene 38: Loading = .619	Scene 47: Loading = .613	Scene 28: Loading = .604
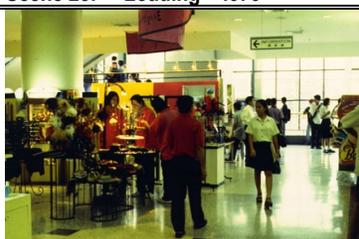
* Indicates the scene used in scene description.

Common Characteristics of Typical Modern Mall Dimension

Common characteristics were first identified based on the researcher's analysis. To confirm that the characteristics were also perceived by shoppers, the content analysis of respondents' comments on the scenes from the Typical Modern Mall Dimension was used to compare with the characteristics identified by the researcher.

The Researcher's Analysis

The characteristics of the Typical Modern Mall dimension are generally characterized by the scenes taken from relatively spacious areas of enclosed shopping malls. The common characteristics are described in terms of spatial configuration, physical content, and environmental condition. The spatial configurations are characterized by spacious arrangement of walkways and common areas. The spaces are wide and deep in the scenes. The present spaces are visually well-connected to other adjacent spaces. Some of the scenes have high ceilings. The organizations are clear between the stores and the walkways or common spaces. Most of the walkways and common areas are free of products. All of the physical elements in the scenes are well-organized. The storefronts are lined up, and the products are kept within the store's boundary. Enclosure elements such as floors, walls, and ceiling are generally well-finished with shiny materials, except for the raw painted ceilings in some of the scenes.

The scenes generally contain sitting areas, decorative elements, and vegetation. Sitting areas are often part of cafés or restaurants; however, some are comprised of benches located adjacent to the walkways or in common areas. Decorative elements include rails, light posts, and small lamps. Five scenes include at least small amounts of vegetation. The spaces are well lit and not crowded. The floors seem to be well-maintained and clean, as is clear from their shiny surfaces.

Generally, these scenes are coherent. Their well-ordered spaces and elements make them easy to understand and find your way through. The spaces, therefore, are legible. The visually well-

connected spaces both horizontally and vertically provide the possibility to wander through. Although the depth is in some cases is obscured by elements such as trees and sitting areas, the areas suggest connectivity and the possibility to see more and go further into the scene. These spaces possess a high level of mystery.

The Respondents' Comments

The frequent comments related to characteristics mentioned by the respondents were analyzed and used to compare with the characteristics identified by the respondents. The data from content analysis of the free comments from scene description survey are reported in Table 5.7— Respondents' Comments on Typical Modern Malls.

From the most frequent comments, this dimension related to atmospheric characteristics, followed by environmental condition, spatial configuration, physical content, organization and display of physical elements, overall assessment, and convenience. The most frequent comments under atmospheric characteristics were: clean, comfortable, pleasant, calm/ relax/ shady, and luxury/ modern. The most frequent comments under environmental condition were: cool and not crowded; on spatial configuration, comments were: clear and spacious, and wide walkway. The most frequent comments made under physical content were: available seats, large selection of products, and trees. The most frequent comments on organization and display were neat and well organized. The comments are overwhelmingly positive as can be seen from the overall assessment comments, such as: want to be there and like the place. Positive comments were also frequently made on convenience.

The common characteristics can be seen by the ranked, most-frequent comments. The most frequent comments in all categories are: clear and spacious, cool, clean, seats, neat and well organized, want to be there, comfortable, wide walkway, pleasant, calm/ relax/ shady, and convenient.

The Common Agreement

There was agreement between the researcher's analysis on common characteristics and comments from the respondents. The agreed-on spatial characteristics are spacious places and wide walkways, good organization, and cleanliness. The agreed physical contents are sitting areas and vegetation. The similarly-found environmental conditions are well lit and not crowded. Therefore, the common physical characteristics of Typical Modern Mall dimension can be best described as clean, well-organized, spacious places with some sitting areas and vegetation.

These characteristics are consistent with the respondent's positive comments on atmospheric quality and overall assessment.

Table 5.7: Respondents' Comments on Typical Modern Malls

Dimension 1: Typical Modern Malls	Scene no: 37 Loading = .654		Scene no: 30 Loading = .644		Scene no: 39 Loading = .604		Scene no: 40 Loading = 542		Scene no: 26 Loading = .536			
Categories	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Total	Average
Spatial Configuration	**65**	**24**	**60**	**12**	**139**	**13**	**126**	**7**	**61**	**22**	**529**	**105.8**
Clear/ Spacious	44		38		92		94		33		301	60.2
Wide/ Large Walkways	21		22		47		32		28		150	30
Tight/ Closed		14		4		7		5		19	49	9.8
Narrow/ Small Walkways		10		8		6		2		3	29	5.8
Organization and Display	**44**	**51**	**36**	**18**	**38**	**51**	**32**	**6**	**58**	**8**	**342**	**68.4**
Neat/ Well Organized/ Ordered	44		36		38		32		58		208	41.6
Disordered/ Chaotic		47		8		29		5		7	96	19.2
Obtrusive		4		10		22		1		1	38	7.6
Physical Content	**41**	**33**	**162**	**2**	**23**	**4**	**118**	**3**	**17**	**1**	**404**	**80.8**
Available Seats	6		153		4		68		2		233	46.6
Large Selection/ Variety	23		7		18		9		15		72	14.4
Trees	1		2		1		41	3			48	9.6
Boring/ Not Interesting		21									21	4.2
High Price		12		2		4				1	19	3.8
Jewelry	11										11	2.2
Atmospheric Character	**82**		**111**		**142**		**354**		**53**		**742**	**148.4**
Clean	45		39		65		77		31		257	51.4
Comfortable	22		43		34		60		10		169	33.8
Pleasant/ Beautiful/ Romantic/ Good Atmosphere	9		16		25		65				115	23
Calm/ Quiet/ Relax/ Shady	2		7		10		90		3		112	22.4
Luxury/ Modern/ New/ Fashionable	4		5		5		33		6		53	10.6
Meeting / Gathering Place			1		1		10		3		15	3
Natural/ Fresh					2		19				21	4.2
Environmental Condition	**117**	**41**	**93**	**33**	**103**	**25**	**83**	**9**	**61**	**78**	**643**	**128.6**
Cool	73		58		46		43		41		261	52.2
Light	19		10		42		30		4		105	21
Dark/ Dim		15		27		5		4		54	105	21
Not Crowded	20				15		10		15		60	12
Crowded		20				8		3		20	51	10.2
Good Number	5		25						1		31	6.2
For Teenager		6		6		12		2		4	30	6
Convenience	**31**	**1**	**22**		**21**		**16**		**63**		**154**	**30.8**
Convenient	30		22		21		16		22		111	22.2
Well Signed	1	1							41		43	8.6
Overall Assessment	**66**	**0**	**50**	**0**	**58**	**0**	**81**	**0**	**30**	**0**	**285**	**57**
Want to be There	46		34		47		42		29		198	39.6
Good/ Like	20		16		11		39		1		87	17.4
Total	**446**	**150**	**534**	**65**	**524**	**93**	**810**	**25**	**343**	**109**	**3099**	**619.8**

Dimension 2: Traditional Outdoor Markets

The second dimension is comprised of different subtypes of traditional markets such as: weekend markets, fresh markets, and pedestrian walk venders. This dimension is titled "Traditional Outdoor Markets". The scenes in this dimension are displayed in the following Figure 5.6— Traditional Outdoor Markets.

Figure 5.6: Traditional Outdoor Markets

Dimension 2: Traditional Outdoor Markets

Scene 21: Loading = .897	Scene 18*: Loading = .823	Scene 22: Loading = .766
Scene 19: Loading = .721	Scene 07*: Loading = .704	Scene 20: Loading = .676
Scene 15: Loading = .642	Scene 10: Loading = .603	Scene 05: Loading = .600
Scene 06: Loading = .515	Scene 11*: Loading = .499	Scene 08: Loading = .349

* Indicates the scene used in scene description.

Common Characteristics of Traditional Outdoor Market Dimension

Common characteristics of Traditional Outdoor Markets were first identified based on the researcher's analysis. To confirm whether shoppers perceived similar characteristics, the content analysis of respondents' comments on the scenes from the Traditional Outdoor Market dimension was used to compare with the characteristics identified by the researcher.

The Researcher's Analysis

Traditional Outdoor Markets consisted of generally outdoor markets, and in some cases, temporary extensions of traditional markets. The spatial configuration mostly consists of areas filled with large amounts of umbrellas, containers, and product displays. Some of the places have open areas, while others show almost no space. Most of the spaces present are not clearly defined between paths and selling areas. They also tend to be crowded, filled with products and people. In many scenes, the floors are hardly visible. The organization and display of elements such as products is poor.

These scenes contain mainly products, such as clothes and small dry products. Other physical contents include temporary structures such as umbrellas. The lighting conditions are bright outdoor and moderately bright semi-indoor. There are almost no enclosure elements except sheltering roofs or umbrellas. The floors tend to be unfinished concrete.

Generally, these scenes are visually very complex. The lack of order in the organization of product displays makes the places incoherent. The obtrusive elements in the space make it hard to find the way between the aisles and product displays. Some scenes seem almost impossible to walk around. These difficulties in way-finding make the scenes low in legibility, while the lack of possibility to walk around makes the scenes low in mystery.

The Respondents' Comments

The above analysis is confirmed by the data from the analysis of comments from the respondents for the representative scenes of this dimension. The most frequent comments are reported in Table 5.8—Respondents' Comments on Traditional Outdoor Markets.

The respondents commented most on environmental condition, following by organization and display of physical elements, physical content, spatial configuration, overall assessment, atmospheric character, and convenience. The most frequent comment related to environmental conditions was: hot and crowded; while the most frequent comments related to organization and

display of physical elements were: disordered and obtrusive. The most frequent comments related to spatial configuration were: tight and closed space. The common characteristics are also examined by the ranked comments. The most frequent comments from all categories are: lack of order, hot, crowded, large selection of products, tight and closed space, obtrusive, don't want to be there, and low price.

Table 5.8: Respondents' Comments on Traditional Outdoor Markets

Dimension 2: Traditional Outdoor Markets	Scene no: 18 Loading = .823		Scene no: 7 Loading = .704		Scene no: 11 Loading = .499			
Categories	Positive	Negative	Positive	Negative	Positive	Negative	Total	Average
Spatial Configuration	**21**	**57**	**23**	**45**	**27**	**38**	**211**	**70.3**
Tight/ Closed		57		39		21	117	39.0
Clear/ Spacious	15		11		20		46	15.3
Wide/ Large Walkways	6		12		7		25	8.3
Narrow/ Small Walkways				6		17	23	7.7
Organization and Display	**2**	**81**	**1**	**146**	**26**	**180**	**436**	**145.3**
Disordered/ Chaotic		81		104		115	300	100.0
Obtrusive				42		65	107	35.7
Neat/ Well Organized/ Ordered	2		1		26		29	9.7
Physical Content	**48**		**93**		**79**		**220**	**73.3**
Large Selection/ Variety	36		42		67		145	48.3
Low Price	12		35		12		59	19.7
Clothes			16				16	5.3
Atmospheric Character	**5**	**23**	**4**	**67**	**12**	**10**	**121**	**40.3**
Dangerous/ Scary/ Drug Use/ Crime		4		29			33	11.0
Dirty/ Old/ Poor		18		9			27	9.0
Street Side				27			27	9.0
Clean	5		4		12		21	7.0
Mundane/ Boring/ Uninteresting		1		2		10	13	4.3
Environmental Condition	**4**	**322**	**4**	**156**	**14**	**45**	**545**	**181.7**
Hot		194		57		34	285	95.0
Crowded		118		97		11	226	75.3
Not Crowded	4		4		14		22	7.3
No Roof		10		2			12	4.0
Convenience	**8**	**11**	**19**	**6**	**3**	**18**	**65**	**21.7**
Inconvenient		11		6		18	35	11.7
Convenient	8		19		3		30	10.0
Overall Assessment	**11**	**55**	**10**	**32**	**15**	**27**	**150**	**50.0**
Don't want to be there		38		16		19	73	24.3
Don't Like		17		16		8	41	13.7
Want to be There	11		10		15		36	12.0
Total	**99**	**549**	**154**	**452**	**176**	**318**	**1748**	**582.7**

The Common Agreement

The most frequent comments of the respondents matched the researcher's analysis on several characteristics. From both analyses, Traditional Outdoor Market dimension is seen as crowded, lack of order, and spaces with obtrusive elements. The comments are mostly negative. This dissatisfaction results in the negative overall assessment, evident in comments such as: don't want to be there, and other low frequency negative comments on atmospheric quality of the places depicted.

Dimension 3: Traditional Fresh Markets

The third dimension consists of scenes of traditional markets selling fresh products. This dimension is titled "Traditional Fresh Markets". The scenes in this dimension are displayed in Figure 5.7—Traditional Fresh Markets.

Figure 5.7 Traditional Fresh Markets

Dimension 3: Traditional Fresh Markets

Scene 01*: Loading = .793	Scene 03: Loading = .633	Scene 04: Loading = .586
Scene 13: Loading = .459	Scene 12: Loading = .454	Scene 02: Loading = .444

* Indicates the scene used in scene description.

<u>Common Characteristics of Traditional Fresh Markets</u>

Common characteristics of Traditional Fresh Markets were first identified based on the researcher's analysis. To confirm whether shoppers perceived similar characteristics, the content analysis of respondents' comments on the scenes from Traditional Fresh Markets dimension was used to compare with the characteristics identified by the researcher.

The Researcher's Analysis

The scenes in the Traditional Fresh Market dimension depict typical fresh markets and some parts of weekend markets selling fresh products[*]. The spatial configuration is characterized by small indoor spaces, comprised of small stores with narrow aisles between stalls of products. These scenes are mostly indoors under one roof, supported by thin columns without walls between stores. The organization and display of physical elements are somewhat well-defined between products and circulations. The product displays are neat and well-ordered.

For physical content, almost all scenes in this dimension depict displays of fresh fruits. Colorful fruits are fully exposed and neatly displayed on the stalls. The lighting conditions are somewhat dark, with products lit by small light bulbs. There is little ornamentation or decoration. The structures are very basic with unfinished concrete floors.

Generally, the scenes are somewhat visually complex with a large number of small products. However, the way that products are displayed makes the scenes appear well-organized and more coherent. The well-defined areas between aisles and product displays make it easy to access the products and find your way through the aisles. The spaces are highly legible.

The Respondents' Comments

The analysis of the verbal comments from the respondents on the scenes from this dimension tends to support the above analysis. The frequent comments are reported by category in Table 5.9—Respondents' Comments on Traditional Fresh Markets.

Most comments were related to the organization and display of physical elements, followed by physical content, overall assessment, spatial configuration, atmospheric character, environmental condition, and the least on convenience. The most frequent comments related to organization and display of physical elements were: neat and well-organized, in the physical content category the most frequent comments were: large selection, fruits, low price, and high quality. The most frequent overall assessment was: want to be there. Other frequent comments were: tight and closed space, and, under the spatial configuration category: clean. Under atmospheric character

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[*] Fresh Markets are a type of traditional Thai market selling fresh foods. The selling stalls or small stores are normally indoor, in the one roof shelter or building. Weekend markets are temporary type of traditional Thai markets selling various kinds of products on specific days. The small stores or stalls are normally arranged outdoor or under temporary structures such as tents or umbrella. In some cases, weekend markets can be permanently set up with multiple small roof-on-post structures.

category, the most frequent comments related to heat; convenience was rated an important characteristic in the convenience category.

Table 5.9: Respondents' Comments on Traditional Fresh Markets

| Dimension 3: Traditional Fresh Markets	Scene no:1 Loading = .793		
Categories	**Positive**	**Negative**	**Total**
Spatial Configuration	**12**	**73**	**85**
Tight/ Closed		73	73
Clear/ Spacious	12		12
Organization and Display	**145**	**23**	**168**
Neat/ Well Organized/ Ordered	131		131
Disordered/ Chaotic		23	23
Eyes Catching/ Interesting	14		14
Physical Content	**117**		**117**
Large Selection	57		57
Fruits	31		31
Low Price	19		19
High Quality	10		10
Atmospheric Character	**44**	**12**	**56**
Clean	44		44
Dirty/ Old/ Poor		12	12
Environmental Condition		**23**	**23**
Hot		23	23
Convenience	**13**		**13**
Convenient	13		13
Overall Assessment	**85**	**13**	**98**
Want to be There	85		85
Don't want to be there		13	13
Total	**416**	**167**	**583**

The Common Agreement

The common characteristics can be seen from the ranked comments. The most frequent comments from all categories are: neat and well-organized, want to be there, tight and closed space, clean, fruits, disordered, hot, and low price. These comments are consistent with the analysis by the researcher. The characteristics mentioned by the respondents are: tight, and closed space, neat organization and display, and fresh fruit products. Except for the spatial configuration category, other comments tend to be positive; thus, the scenes receive high frequency of comments related to positive overall assessment.

Dimension 4: Outdoor Markets with Vegetation

The fourth dimension consists of scenes from both traditional and modern shopping environments. The scenes with traditional markets depict weekend markets, while the modern shopping environments depict an outdoor center. The scenes in this dimension contain outdoor areas and vegetation; thus, this dimension was called "Outdoor Markets with Vegetation." The scenes are displayed in Figure 5.8—Outdoor Markets with Vegetation.

Figure 5.8: Outdoor Markets with Vegetation
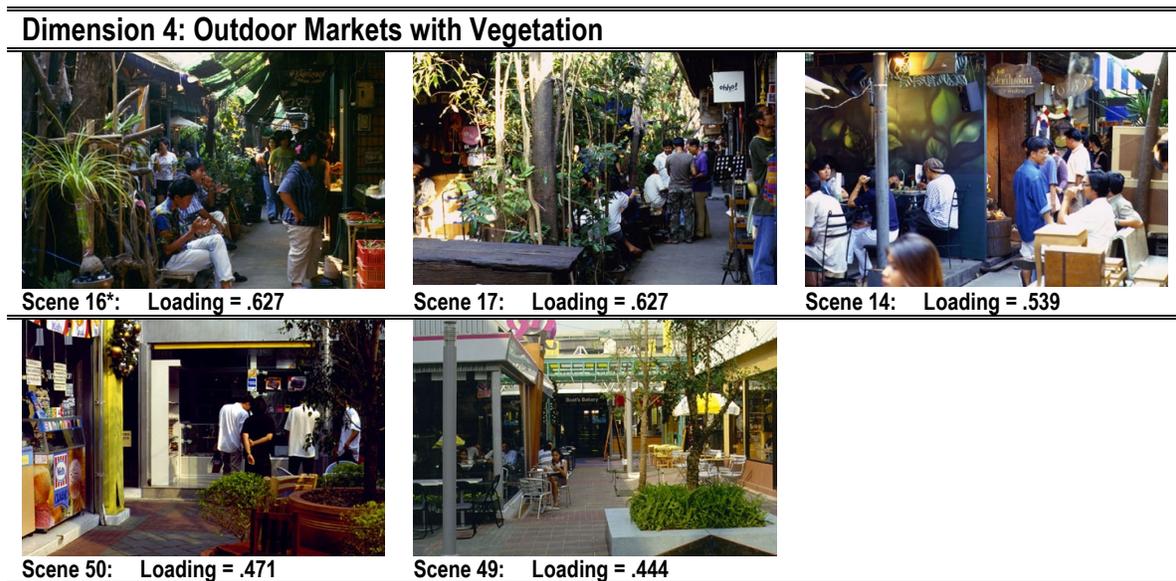
Dimension 4: Outdoor Markets with Vegetation

Scene 16*:   Loading = .627   Scene 17:   Loading = .627   Scene 14:   Loading = .539

Scene 50:   Loading = .471   Scene 49:   Loading = .444

* Indicates the scene used in scene description.

Common Characteristics of Outdoor Markets with Vegetation

Common characteristics of Outdoor Markets with Vegetation were first identified based on the researcher's analysis. To confirm whether shoppers perceived similar characteristics, the analysis of respondents' comments on the scenes from Outdoor Markets with Vegetation dimension was used to compare with the characteristics identified by the researcher.

The Researcher's Analysis

The common characteristics of Outdoor Markets with Vegetation are characterized by both traditional and modern shopping environments. The scenes include weekend markets and outdoor modern shopping centers. The spatial configuration consists of relatively small spaces with narrow walkways between stores. While the scenes contain people, they are not crowded.

The common physical content of the scenes is vegetation and sitting areas. Products or product displays are hardly visible in the scenes. The scenes are well lit with natural light. The structures in the scenes with traditional markets are similar to weekend markets but with more decorative elements such as signs and pictures. The floors in these scenes are bare concrete. In the scenes with modern shopping centers, the structures are finished and the floors are paved with colored paving materials.

Generally, the spatial configurations of the scenes are similar to typical traditional markets; however, they are more colorful, because of the vegetation and decoration. Visually, the scenes are moderately complex, with fairly high coherence. With elements such as trees and sitting areas, the views are partially blocked, yet still promise the possibility to see further and wander through the environment. These scenes are moderately high in mystery, and at least moderate in legibility due to the constant structure of aisles between stores.

The Respondents' Comments

To confirm the above analysis, the data from content analysis of the most frequent respondents' comments on the scenes used in the scene description survey that represent this dimension are reported in Table 5.10—Respondents' Comments on Outdoor Markets with Vegetation.

The most frequent comment is related to spatial configuration, followed by atmospheric character, environmental condition, furnishing, overall assessment, and organization and display of physical elements. The most frequent comments on spatial configuration were: narrow aisles, and tight and closed space. The most frequent comments on atmospheric character were: calm, relaxing, and shady. The most frequent comments on environmental condition were: crowded and hot. Other frequent comments related to elements such as trees and seats; comments related to overall assessment were: don't want to be there. Comments related to organization and display were: lack of order and obtrusive. The comments for this dimension are both positive and negative. The overall assessment was more frequently negative, but this result was offset by many positive comments.

Table 5.10: Respondents' Comments on Outdoor Markets with Vegetation

| Dimension 4: Outdoor Markets With Vegetation	Scene no: 16 Loading = .627		
Categories	**Positive**	**Negative**	**Total**
Spatial Configuration		**208**	**208**
Narrow/ Small Walkways		105	105
Tight/ Closed		103	103
Organization and Display		**54**	**54**
Disordered/ Chaotic		42	42
Obtrusive		12	12
Physical Content	**76**		**76**
Trees	48		48
Available Seats	19		19
Atmospheric Character	**88**	**25**	**113**
Calm/ Quiet/ Relax/ Shady	43		43
Natural/ Fresh	32		32
Dangerous/ Scary/ Drug Use/ Crime		14	14
Intimate/ Warm	13		13
Bad Hangout		11	11
Environmental Condition	**18**	**80**	**98**
Crowded		49	49
Hot		31	31
Cool	18		18
Convenience		**11**	**11**
Well Signed		11	11
Overall Assessment	**35**	**34**	**69**
Don't want to be there		34	34
Want to be There	24		24
Good/ Like	11		11
Total	**217**	**412**	**629**

The Common Agreement

The commonly perceived characteristics are evident from the ranked comments. The most frequent comments from all categories are: narrow isles, tight and closed space, crowded, trees, calm, relaxing and shady, lack of order, don't want to be there, natural-fresh, hot, and seats. These frequent comments support the characteristics identified by the researcher. The common characteristics are consistent on small and tight spaces with narrow walkways, vegetation and sitting areas.

Dimension 5: Modern Mall with Exposed Products

The fifth dimension is comprised of scenes from enclosed modern malls. However, the scenes in this dimension depict areas filled with exposed products and stalls. This dimension was labeled "Modern Malls with Exposed Products." The scenes in this dimension are displayed in figure 5.9—Modern Malls with Exposed Products.

Figure 5.9: Modern Malls with Exposed Products
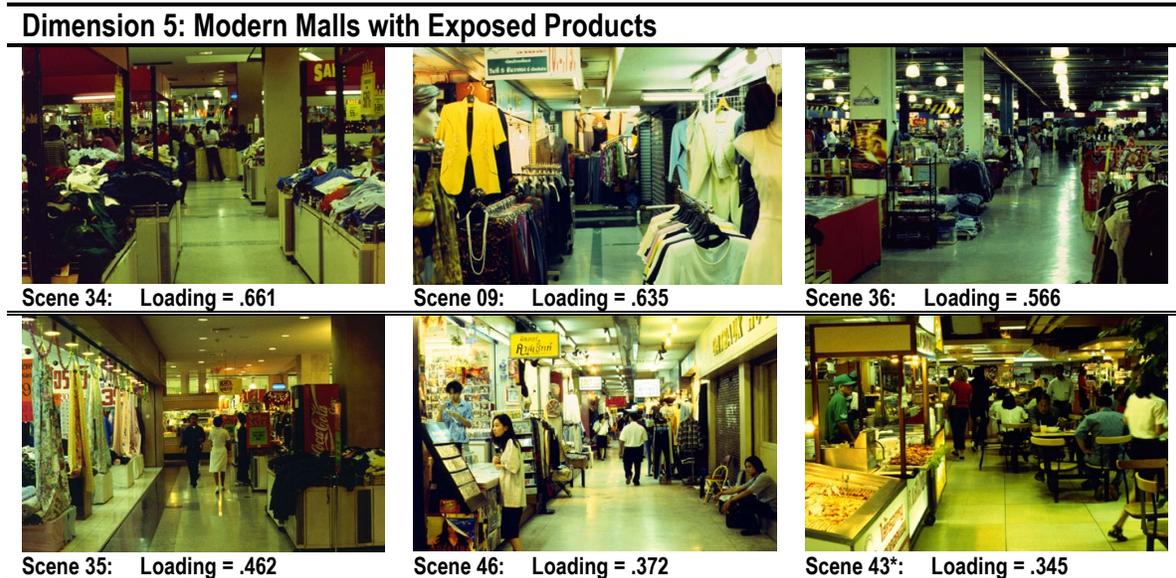
Dimension 5: Modern Malls with Exposed Products		
Scene 34: Loading = .661	Scene 09: Loading = .635	Scene 36: Loading = .566
Scene 35: Loading = .462	Scene 46: Loading = .372	Scene 43*: Loading = .345

* Indicates the scene used in scene description.

Common Characteristics of Modern Malls with Exposed Products

Common characteristics of Modern Malls with Exposed Products were first identified based on the researcher's analysis. To confirm whether shoppers perceived similar characteristics, the analysis of respondents' comments on the scenes from Modern Malls with Exposed Products dimension was used to compare with the characteristics identified by the researcher.

The Researcher's Analysis

The common characteristics of Modern Malls with Exposed Products are characterized by areas in enclosed modern malls where products are displayed on both sides. These scenes consist of indoor shopping environments with somewhat narrow walkways between displays of products. The scenes depict narrow linear spaces with no apparent vertical or horizontal connection to larger spaces. There are clear boundaries between product displays and circulation paths. However, a large number of products are displayed, and the displays tend to lack order. The scenes depict a number of people, but the spaces are not crowded.

The physical contents depicted in the scenes are products and display containers. The displayed products are mostly clothes, with the exception of a food court scene, which include foods and a sitting area. The product containers are open stalls, with the products exposed on the stalls. The scenes tend not to be well lit. The enclosure elements are not as well finished as in typical

modern malls. The enclosures seem to be finished with plain material without decoration. However, the spaces seem to be clean, as is evident from the look of shiny floors.

These scenes are moderately high in complexity due to the appearance of large amount of products with different sizes, shapes, and colors. These scenes are easy to access and walk through. However, they do not offer the possibility to see further or walk further than the visible areas. Therefore, they are high in legibility but low in mystery.

The Respondents' Comments

The above analysis was compared to the content analysis of free response comments on representative scene used in scene description survey. The most frequent comments are reported in Table 5.11—Respondents' Comments on Modern Malls with Exposed Products.

Table 5.11: Respondents' Comments on Modern Malls with Exposed Products

Dimension 5: Modern Mall With Exposed Products	Scene no: 43 Loading = .345		
Categories	Positive	Negative	Total
Spatial Configuration		134	134
Tight/ Closed		60	60
Narrow/ Small Walkways		74	74
Organization and Display	32	44	76
Neat/ Well Organized/ Ordered	32		32
Disordered/ Chaotic		44	44
Physical Content	81	21	102
Large Selection/ Variety	46		46
High Quality	18		18
Not Available Seats		21	21
Available Seats	17		17
Atmospheric Character	44	10	54
Clean	44		44
No privacy		10	10
Environmental Condition		83	83
Crowded		38	38
Smell		16	16
Dark/ Dim		29	29
Convenience	28	10	38
Convenient	28		28
Inconvenient		10	10
Overall Assessment	34	12	46
Want to be There	34		34
Don't want to be there		12	12
Total	219	314	533

The most frequent comments were related to spatial configuration, followed by physical content, environmental condition, organization and display of physical elements, atmospheric character, and overall assessment. The fewest comments were related to convenience. The most frequent comments under the spatial configuration category were: narrow walkway, and tight and closed space. The most frequent comments under the physical content category were: seats, large selection of products, and high quality products. The most frequent comments under the environmental condition category were: crowded and dark. Other frequent comments were: lack of order under the organization and display of physical elements category: clean, under the atmospheric category; want to be there, on the overall assessment category; and convenient on the convenience category.

The Common Agreement

The comments for this dimension are both positive and negative. Some of the same comments are frequently made in both a positive and a negative way such as: ordered and disorder, and available seats and not enough seats. The common characteristics are best described by ranked comments. The most frequent comments from all categories are: narrow walkway, tight and closed space, large selection of products, clean, lack of order, crowded, want to be there, neat/ well ordered, dark, convenient, and not enough seats. It should be noted that seats are not common elements of other scenes in this dimension. In general, the comments are in agreement with the analysis by the researcher on exposed product displays, narrow walkways, blocked and closed space, lack of order display, and clean space.

Preference by Dimensions

In previous sections, the characteristics of different environments depicted by dimensions were provided. To better understand how the characteristics and contents of the dimensions identified in the previous sections affects people's reactions to the environments, preferences for different dimensions were compared and examined. Mean preference for each dimension was calculated and compared to demonstrate the differences of magnitudes of preferences among dimensions. Preference means are compared using repeated measure Analysis of Variance and displayed, respectively from the highest to lowest, in Table 5.12—Means Preference by Dimensions.

Although significant differences were found, there were not great differences between the means preference of all dimensions. The lowest mean preference was 2.21, while the highest was 3.17. The difference of 0.96 is not a great difference, considering that in the survey procedure, the

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scenes were rated using a 1 to 5 rating scale (1 = not preferred; 2 = preferred a little, 3 = preferred somewhat; 4 = preferred; 5 = very much preferred.)

Table 5.12: Mean Preference by Dimensions

Rank	Dimensions	Means	Significant Rank*
Means Preference by Dimensions			
Rank	Dimensions	Means	Significant Rank*
1	Typical Modern Malls	3.1735	1
2	Traditional Fresh Markets	2.9139	2
3	Outdoor Markets with Vegetation	2.8260	2, 3
4	Modern Malls with Exposed Products	2.7444	3
5	Traditional Outdoor Markets	2.2113	4
	Grand Mean	**2.7740**	

* Indicates that the means with the same significant rank are not significantly different (Repeated measure with Bonferroni adjustment for multiple comparisons)

The most significantly-preferred dimension is Typical Modern Malls, with a mean of 3.1735. The second most-preferred dimension is Traditional Fresh Markets (2.9139); however, this dimension is not preferred significantly more than the third, Outdoor Markets with Vegetation (2.8260). The Outdoor Markets with Vegetation dimension is also not preferred significantly more than the fourth, Modern Malls with Exposed Products (2.7444). Finally, the least-preferred dimension is Traditional Outdoor Markets with the mean of 2.2113.

To demonstrate the common characteristics perceived by the respondents for each dimension, and between modern and traditional environments, the most frequent commented categories are displayed by dimensions in Table 5.13—The Most Frequent Comments by Dimensions.

Table 5.13: The Most Frequent Comments by Dimensions

	Modern		Traditional		Mixed
The Most Frequent Commented Categories by Dimensions					
	Typical Modern Malls	**Modern Malls with Exposed Products**	**Traditional Fresh Markets**	**Traditional Outdoor Markets**	**Outdoor Markets with Vegetation**
Mean	3.1735	2.7444	2.9139	2.2113	2.8260
Ranked Frequency of Categories	(+) Atmospheric Character (+) Environmental Condition (+) Spatial Configuration (+) Physical Content (+) Organization and Display (+) Overall Assessment (+) Convenience	(-) Spatial Configuration (+)(-) Physical Content (-) Environmental Condition (-) Organization and Display (+) Atmospheric Character (+) Overall Assessment (+) Convenience	(+) Organization and Display (+) Physical Content (+) Overall Assessment (-) Spatial Configuration (+) Atmospheric Character (-) Environmental Condition	(-) Environmental Condition (-) Organization and Display (+) Physical Content (-) Spatial Configuration (-) Overall Assessment	(-) Spatial Configuration (+) Atmospheric Character (-) Environmental Condition (+) Physical Content (-) Overall Assessment (-) Organization and Display

From Table 5.13, the most preferred Typical Modern Malls dimension has positive comments in all categories. Compared to the other dimensions, the Typical Modern Malls dimension was distinguished by perceived spaciousness and wide space, and by more positive comments on atmosphere. On the contrary, the least-preferred dimension, Traditional Outdoor Market, received negative comments on all categories except on product-related comments. Compared to other dimensions, Traditional Outdoor Markets did not receive sufficient comments on atmospheric character; moreover, the spatial configuration and organization and display comments are tight and closed spaces, and obtrusive places. Further comparisons of the most frequent comments in all categories are displayed in Table 4.14—The most Frequent Comments by Dimensions.

Table 5.14: The Most Frequent Comments by Dimensions

The Most Frequent Comments by Dimensions				
Categories	Modern		Traditional		Mixed
	Typical Modern Malls	Modern Malls with Exposed Products	Traditional Fresh Markets	Traditional Outdoor Markets	Outdoor Markets with Vegetation
Mean	3.1735	2.7444	2.9139	2.2113	2.8260
Spatial Configuration	Spacious Wide Walkway	Narrow Walkway Tight/ Closed	Tight/ Closed	Tight/ Closed	Narrow Walkway Tight/ Closed
Organization and Display	Neat	Disordered	Neat	Disordered Obtrusive	Disordered
Physical Content	Seat	Large Selection Not Enough Seat	Large Selection Fruit Low Price	Large Selection Low Price	Tree Seat
Atmospheric Character	Clean Comfortable Pleasant Calm/Relax/Shady	Clean	Clean		Clam/Relaxing/Shady Natural/ Fresh
Environmental Condition	Cool	Crowded Dark	Hot	Hot Crowded	Crowded Hot
Convenience	Convenient	Convenient			
Overall Assessment	Want to be there	Want to be there	Want to be there	Don't want to be there	Don't want to be there

Note: Each comment listed must have the higher frequency than the lowest average frequency per scene per comment (19 from Typical Modern Malls)

Table 5.14 shows that organization and display of physical elements seem to be important distinguishing factors between the more- and less-preferred dimensions within either modern or traditional shopping environments. The neat and well-organized dimensions, Typical Modern Malls and Traditional Fresh Markets, are more preferred than their disordered counterparts. Crowdedness also has similar effects on more- and less-preferred dimensions. Physical contents such as trees and seats make Outdoor Markets with Vegetation more preferred than Traditional Outdoor Markets, although, they receive similar negative comments. Between the types,

perceived cool temperature, cleanliness, and convenience make modern shopping environment more preferred than the traditional markets.

Conclusion: The Preferred Environmental Characteristics

The analyses of the most and least preferred scenes and the analysis of preference dimensions provide an understanding of the common characteristics of the shopping environment based on magnitudes and patterns of preference of the respondents. The patterns of perception apparent in the dimensions revealed that people perceived type and subtype of shopping environments as a major factor in preference for shopping environments. In general, the common characteristics analyzed by the researcher provide more insight into details of physical characteristics of the types and subtypes of shopping environments. However, the comments from the respondents reveal the salient characteristics perceived by the public, including the implied characteristics associated with the environments, as well as their overall assessment of the places. The comments made on implied characteristics are: prices, variety, quality of products, and temperature. The overall assessment expresses their likeness and desire to be or do things in the places. The double-checking of two analyses, analysis of physical characteristics and content analysis of the frequent comments, increases validity and reliability of the results.

The previous section provided an understanding of environmental characteristics of shopping environments that influence preference, using an analysis of the most-and least-preferred scenes and an analysis of preference dimensions. The results showed that people perceive shopping environments by their spatial configurations, organization of elements, physical contents, and environmental conditions. They recognize the difference within the type of environments by the differences among the above characteristics.

Type of environments is an important factor in preference for shopping environments. It is apparent from the pattern of preference that type of environment dominates the grouping of the dimensions. Modern shopping environments are generally more preferred than traditional shopping environments. Within the same type of environments, the subtype that contains more of the preferred characteristics is more liked. There is also a similarity between the preferred characteristics derived from both analyses. The preferred spatial configuration tends to be a spacious place with the possibility to see and wander further. The preferred organization and display of physical elements tend to be well-ordered and tends to assist way-finding. The preferred physical contents tend to be vegetation, sitting areas, and in some cases, fresh products.

The preferred environmental condition tends to be well maintained, well lit, uncrowded, and cool in temperature.

II. Preference and Perceived Importance of Shopping Attributes

This section discusses the relationships between preference and perceived importance of different shopping attributes. Shopping attribute is an important factor in making decisions for a shopping place. People perceive different shopping attributes differently according to how important the shopping attributes are to them. Different shopping environments also offer different shopping attributes. Therefore, shopping attributes can influence preferences for shopping environments. It is necessary to examine whether there is a significant relationship between preference for shopping environments and the perceived importance of different shopping attributes. If the relationship exists, what is the relationship, what are the attributes and how much does each attribute contribute to preference for different shopping environments?

The results are discussed in the following order: first, the importance of shopping attributes; second, dimensions of shopping attributes derived from factor analysis; third, results from a test of the relationship between preference dimensions and shopping attribute dimensions using canonical correlation analysis; fourth, the relationship between preference and shopping attributes, Recreational Shopping and Value Shopping.

1. Perceived Importance of Shopping Attributes

Shopping attributes consist of a variety of features related to shopping being offered in shopping environments. 27 items of shopping attributes were rated by the respondents according to how important each attribute was to the respondents. The ranked importance of the attributes of shopping environments is displayed in Table 5.15—Important Shopping Attributes.

It is important to note that the respondents perceived all of the shopping attributes as important. The mean importance ranged from 2.99 to 4.57 on a rating scale of 1 to 5 (1 = not important; 5 = very important). The most important shopping attributes tend to be the attributes that are related to the qualities of the environments, such as cleanliness (4.57) and safety (4.53), followed by quality of products (4.51) and quality of service (4.42). The least important shopping attributes tend to be the attributes that are related to entertainment features such as entertainment centers

(2.99) and movie theaters (3.08). Although these two attributes are always used in shopping malls as anchors to attract customers, they are not perceived as very important compared to other attributes.

Table 5.15: Ranked Important Shopping Attributes

Rank	Shopping Attributes	Mean	SD.
	Ranked Important Shopping Attributes		
1	Cleanliness	4.57	0.63
2	Safety	4.53	0.63
3	Quality of Products	4.51	0.66
4	Quality of Service	4.42	0.71
5	Variety of Products	4.29	0.83
6	Convenient parking	4.26	0.83
7	Easy Wayfinding	4.17	0.79
8	Variety of Brand	4.16	0.83
9	Low Price	4.15	0.91
	Close to Home	4.15	0.92
11	Food & Beverage	4.10	0.85
12	Sitting Areas	4.06	0.84
13	Pleasurable Atmosphere	3.97	0.83
	Discount	3.97	0.89
15	Air-Conditioned	3.96	0.99
16	Close to Work	3.94	0.96
17	Specialty Products	3.92	1.01
18	Negotiable Price	3.90	1.02
19	Interesting Things to Do and See	3.73	0.88
20	Promotion Program	3.72	0.92
21	Department Store	3.71	1.03
	General Services (Bank, Post, etc)	3.71	1.05
23	Close to Public Transport	3.63	1.09
24	Advertising	3.38	1.01
25	People & Activities	3.22	1.07
26	Movie Theaters	3.08	1.29
27	Entertainment Center	2.99	1.24

2. Shopping Attribute Dimensions

Some of the important shopping attributes may be highly related to the others. To understand the patterns of importance for all the shopping attributes shown in Table 5.15, it is important to group them according to the perceptions of shoppers. Dimensions of importance of shopping attributes can reveal shoppers' patterns of perceptions and can better represent meaningful groups of attributes in further analysis. Shopping attributes were analyzed using factor analysis to derive

dimensions of related shopping attributed to use in the further analysis. As described in the methodology chapter, factor analysis of the perceived importance of shopping attributes yielded 8 factors. Variables that load significantly on more than one dimension are included only in the dimension with higher loading in order to create discrete sets. All of the dimensions with variables and loadings are displayed in Table 5.16—Ranked Perceived Important Shopping Attributes Dimensions.

Table 5.16: Ranked Perceived Important Shopping Attribute Dimensions

Perceived Important Shopping Attribute Dimension		
Dimensions	**Variables**	**Loading**
1: Quality of Place and Product **Mean = 4.50 SD. = .49**	Q07 Service Quality Q08 Clean Environment Q10 Safe Environment Q04 Product Quality	.787 .713 .546 .420
2: Product Variety **Mean = 4.12 SD. = .70**	Q02 Brand Variety Q01 Type Variety Q03 Specialty	.787 .713 .488
3: Accessibility **Mean = 4.05 SD. = .87**	Q21 Close to Work Q20 Close to Home	.895 .770
4: Economic **Mean = 4.03 SD. = .79**	Q05 Low Price Q06 Negotiable Price	.667 .497
5: Recreation and Leisure **Mean = 3.96 SD. = .58**	Q12 Visually Pleasing Environment Q13 Place to Sit Q14 Something to Eat and Drink Q09 Air Conditioned Q11 Interesting Things to Do and See	.812 .591 .448 .345 .315
6: Ease and Convenience **Mean = 3.94 SD. = .64**	Q19 Wayfinding Q18 General Services Q22 Convenient Parking Q23 Access to Public Transport	.600 .568 .441 .418
7: Sales and Promotion **Mean = 3.58 SD. = .70**	Q26 Promotion Activities Q27 People and Activities Q25 Discount Activities Q24 Advertising	.834 .541 .513 .440
8: Entertainment and Anchor **Mean = 3.26 SD. = .95**	Q16 Movie Theater Q17 Entertainment Center Q15 Department Store	1.064 .466 .336

Dimension 1: Quality of Place and Products

The quality of place and product dimension includes variables related mainly to the quality of shopping environments. The variables included are quality of service, clean environment, safe environment, and quality of product; thus, this dimension was labeled Quality of Place and Products.

Dimension 2: Product Variety

The product variety dimension includes variables dealing with the selection of products. The variables include variety of brand, variety of product type, and availability of specialty products. This dimension was labeled Product Variety.

Dimension 3: Accessibility

The accessibility dimension is comprised of variables dealing with location of shopping environments in relation to accessibility. This dimension includes close to work and close to home variables; therefore, this dimension was labeled Accessibility.

Dimension 4: Economic

The economic dimension is comprised of variables dealing with two aspects of price: low price and negotiable price. Therefore, this dimension was labeled Economic.

Dimension 5: Recreation and Leisure

The recreation and leisure dimension is comprised of variables related to the recreational activities and the aspects of environment that support leisure activities. The variables included are visually pleasing environment, place to sit, something to eat and drinks, air-conditioned, and interesting things to do and see. This dimension was labeled Recreation and Leisure.

Dimension 6: Ease and Convenience

The facility and convenience dimension is composed of variables related to the ease and convenience of shopping activities. The variables included are easy wayfinding, general services, convenient parking, and access to public transport. This dimension was labeled Ease and Convenience.

Dimension 7: Sales and Promotion

The sales and promotion dimension includes variables dealing with sales activities and other promotion activities happening in shopping environments. This dimension includes promotion activities, the presence of other people and activities, discount activities, and advertising. This dimension was labeled Sales and Promotion.

Dimension 8: Entertainment and Anchor

The entertainment and anchor dimension is composed of the major entertainment and magnet features of shopping malls, which are normally used as anchors. The variables included are

movie theaters, entertainment centers, and department stores. This dimension is, however, dominated by the movie theater variable; therefore, it was labeled Entertainment and Anchor.

Importance of Shopping Attributes by Dimensions

The mean importance of all of the shopping attribute dimensions were compared; they are displayed in Table 5.17—Importance of Shopping Attributes by Dimensions. According to the comparison, Quality of Space and Products (4.50) is the most important dimension in shopping attributes, followed by a tied group of Product Variety (4.12), Accessibility (4.05), and Economic (4.03). The latter two are also tied with the next tied set, which includes Recreation and Leisure (3.96) and Ease and Convenience (3.93). The second least important dimension is Sales and Promotion (3.58). The least important dimension is Entertainment and Anchor (3.26).

Table 5.17: Importance of Shopping Attributes by Dimensions

Importance of Shopping Attribute by Dimension			
Dimension	Name	Mean	Significant Rank
1	Quality of Place and Product	4.50	1
2	Product Variety	4.12	2
3	Accessibility	4.05	2, 3
4	Economic	4.03	2, 3
5	Recreation and Leisure	3.96	3
6	Ease and Convenience	3.94	3
7	Sales and Promotion	3.58	4
8	Entertainment and Anchor	3.26	5

Note: Those with the same significant rank are not significantly different at .05 level (Repeated Measure with Bonferroni adjustment for multiple comparisons)

It is important to note that people recognize the qualities of place and product as the most important attribute of shopping. Developers generally believe that anchors are the magnets attracting shoppers to shopping malls; however, entertainment and anchor are regarded as the least important variable by the shoppers surveyed. Similarly, sales and promotion are the important tools that the mall management team and marketers use to attract customers; nevertheless, they are the second least important variable in the eyes of surveyed shoppers.

3. Relationships between Preference Dimensions and Important Shopping Attributes Dimensions

To identify the relationships, canonical correlation analysis was applied to two sets of variables, 5 preference dimensions, and 8 important shopping attribute dimensions. The purpose was to explore the number of ways in which preference dimensions and shopping attribute dimensions

are related to each other, and the nature and strength of the relationship. Two significant relationships were found in the results from the canonical correlation analysis.

Using the procedures described in the Methodology Chapter, the analysis yielded two significant canonical variates, indicating that two significant relationships were found. The first relationship is significant at the .01 level, while the second is significant at the .05 level. For both relationships, the variables in both sets are listed with standardized canonical correlation coefficients and canonical loadings. The results are reported in Table 5.18—Canonical Correlation Analysis Results.

Table 5.18: Canonical Correlation Analysis Results

Canonical Correlation Analysis Result				
	CV1 (Relationship 1) Canonical Correlation = .501**		CV 2 (Relationship 2) Canonical Correlation = .212*	
	Standardized Canonical Coefficients	Canonical Loading	Standardized Canonical Coefficients	Canonical Loading
Set 1: Environmental Dimensions				
1. Typical Modern Malls	-..608	**-.716**	.829	.255
2. Traditional Outdoor Markets	.192	**.447**	.905	**.470**
3. Traditional Fresh Markets	.551	**.602**	.516	**.390**
4. Outdoor Markets with Vegetation	-.365	**-.380**	-.077	**.382**
5. Modern Malls with Exposed Products	.072	.120	-1.263	-.151
Set 2: Important Shopping Attribute Dimensions				
1. Quality of Place and Product	-.387	**-.378**	-.826	**-.382**
2. Product Variety	-.034	**-.436**	.262	.121
3. Accessibility	.126	.092	-.110	.053
4. Economic	.229	.001	.640	**.633**
5. Recreation and Leisure	-.681	**-.704**	.458	.170
6. Ease and Convenience	.600	-.211	-.266	-.185
7. Sales and Promotion	.092	-.176	.389	**.405**
8. Entertainment and Anchor	-.646	**-.759**	-.192	.164

** Indicates significance at .01 level; * indicates significance at .05 level

For each relationship, only significant variables with absolute values greater than .30 were included in the interpretation. In table 5.18, the significant loadings are presented in bold letters. A positive or negative value of loading indicates the direction of the relationship. The strength of the relationship is indicated by the value of canonical correlation, while the nature of the relationship is indicated by the influences of variables with significant loadings. As with interpretation of factors or dimensions in factor analysis, a variable with higher loading has greater influence on the set of variables.

Relationship 1: Recreational Shopping

The first relationship was interpreted as related to the recreational aspect of preference for shopping environments. The strength of the relationship is moderately high (canonical correlation = .501). The nature of the entertainment and recreational shopping relationship is dominated by the negative direction of the scale of the relationship, which is influenced by the entertainment and recreational aspect of shopping. On each direction of the scale of the relationship, variables from both sets influence the relationship.

The negative-positive directions of the relationship can be described as the entertainment and recreational aspect versus the functional aspect of shopping. The negative direction of the entertainment and recreational shopping relationship is dominated by the high influence of the Entertainment and Anchor dimension (-.759) and the Recreation and Leisure dimension (-.704), and the moderate to low influences of Product Variety (-436) and Quality of Place and Product (-378) for the shopping attribute set. For the preference dimension set, the high influence of the Typical Modern Malls dimension (-.716) and the moderate influence of the Outdoor Markets with Vegetation dimension (-.380) dominate the negative direction.

The positive direction of the recreational relationship is dominated by the Traditional Fresh Markets dimension (.602) and the Traditional Outdoor Markets dimension (.447) for the preference dimension set. For the shopping attribute set, the influence of shopping attribute dimensions on the positive direction of the relationship is insignificant, due to the lack of significant positive loadings. However, for comparison purposes, an observation of the dimensions with insignificant positive loadings, the Accessibility dimension and the Economic dimension, suggests a functional aspect of shopping. The relationship is displayed in Figure 5.10—Recreational Shopping Relationship.

 The influence of preference dimensions on the overall relationship can be described. The Typical Modern Malls dimension is related the most to entertainment and recreational shopping, while the Outdoor Markets with Vegetation dimension is moderately related to entertainment and recreational shopping. On the contrary, the Traditional Fresh Markets dimension is related the most to functional shopping, while the Traditional Outdoor Market dimension is moderately related to functional shopping. This is consistent with the results from previous analysis. The Typical Modern Malls and Outdoor Markets with Vegetation dimensions offer opportunities for recreation and socialization. These opportunities were found to be related to high preferences for

these two dimensions. On the contrary, Traditional Fresh Markets and Traditional Outdoor Markets were preferred because of their quality and price of the products.

Figure 5.10: Recreational Shopping Relationship

Relationship 1: Recreational Shopping

Functional (+)

↑

Set 1: Environmental Dimension				Set 2: Shopping Attribute Dimension
3. Traditional Fresh Markets	.602		-.378	1. Qualities of Place and Product
2. Traditional Outdoor Markets	.447		-.436	2. Product Variety
4. Outdoor Markets with Vegetation	-.380	.501**	-.704	5. Recreation and Leisure
1. Typical Modern Malls	-.716		-.759	8. Entertainment and Anchor

↓

Recreational (-)

** Significant at .01 level

In general, the first and strongest relationship between the environmental dimension set and the perceived importance of shopping attribute set is entertainment and recreational shopping, which is related to the Entertainment Anchor and Recreation and Leisure dimensions of shopping attribute. This relationship is related to the preferences for the Typical Modern Malls and Outdoor Market with Vegetation dimensions. These two preference dimensions offer opportunities for recreation and socialization.   Especially, Typical Modern Malls also offer movie theaters, entertainment centers, and department stores; anchors include sitting areas, cafés or restaurants, and a pleasant atmosphere. On the contrary, traditional markets are not preferred as entertaining and recreational shopping places. They offer neither the possibility for socialization and recreation nor an entertainment facility.

Relationship 2: Value Shopping

The second relationship was interpreted as related to the value aspect of shopping. The strength of the relationship is relatively low, due to a low canonical correlation (2.12). The nature of the value shopping relationship is dominated by the positive direction of the scale of loadings (almost all positive), which is influenced by the Economic aspect of shopping. On each direction on the scale of the relationship, variables from both sets influence the relationship.

The positive-negative scale of the value shopping relationship can be interpreted as a value-quality aspect of shopping. The positive direction of the value shopping relationship is

dominated by the high influence of the Economic dimension (.633), and the moderate influence of the Sales and Promotion dimension (.405) for the shopping attribute dimension set. For the preference dimension set, the moderate influences of the Traditional Outdoor Markets dimension (.470), the Traditional Fresh Markets dimension (.390), and the Outdoor Markets with Vegetation (.382) dimension, which dominate the positive direction of the relationship.

The negative direction of the relationship is dominated by the low influence of the Quality of Place and Product dimension (-.382) for the shopping attribute dimension set. However, there is no significant negative loading on the preference dimension set. Therefore, the influence of preference dimensions on the negative direction of the relationship is insignificant. The relationship is displayed in Figure 5.11—Value Shopping Relationship.

Figure 5.11: Value Shopping Relationship

Relationship 2: Value Shopping

Value (+)

Set 1: Environmental Dimension				Set 2: Important Shopping Attribute Dimension
2. Traditional Outdoor Markets	.470		.633	8. Economic
3. Traditional Fresh Markets	.390	.212*	.405	3. Sales and Promotion
4. Outdoor Markets with Vegetation	.382		-.382	1. Quality of Place and Product

Quality (-)

* Significant at .05 level
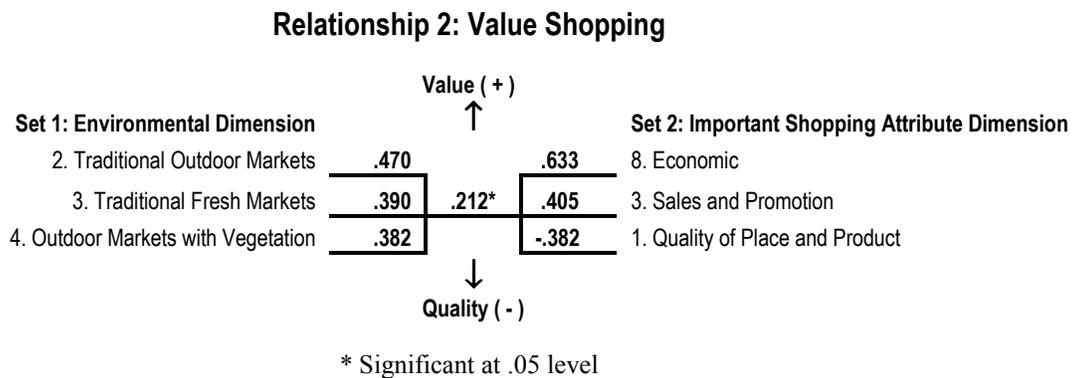
The influence of preference dimensions on the overall value shopping relationship can be described as follows: places that are perceived as having low prices are also perceived as negatively related to quality; that is, if a place is perceived as providing low prices, it is also perceived as having low qualities of place and product. As can be seen in Figure 5.11, Traditional Outdoor Markets, Traditional Fresh Markets, and Outdoor Markets with Vegetation influence moderately the positive direction of the relationship; therefore, they are perceived as value shopping places offering low prices and various sales and promotions. This finding is consistent with the results from the previous analysis that traditional markets are frequently commented on as related to low price and negative aspects of physical environment.

On the contrary, qualities of place and product are perceived by shoppers as negatively related to value shopping. Higher qualities of place and products are perceived as upscale and more expensive; thus, they are not preferred as value shopping places. However, no preference

dimension has significant influence on the negative scale of the value shopping relationship; therefore, it is not conclusive about the upscale and expensive shopping environments.

In general, the second and weaker relationship between the preference dimensions and shopping attribute dimensions is value shopping, which is influenced by economic, sales and promotion activity shopping attributes. Traditional markets and traditional dominated environments (Outdoor Markets with Vegetation) were perceived as value shopping places as opposed to expensive and upscale shopping places. They were perceived as offering low price and a variety of promotion activities; however, they were also perceived as related to negative qualities of place and product.

Conclusion

This section has provided an understanding about the importance of different shopping attributes, the pattern of importance of the shopping attributes of shoppers, and the relationships among preference and shopping attributes. Comparison of the perceived importance of shopping attributes revealed that quality of place and products was the most important and anchor was the least important. Entertainment and anchor, recreation and leisure, and economic dimensions had the greatest influences on the preferences for preference dimensions.

The findings from this analysis identify two significant relationships between preference for physical environments and perceptions of importance of shopping attributes: recreational shopping and value shopping. The first and stronger relationship, recreational shopping, is influenced primarily by the perceived importance of entertainment facilities and recreational features of shopping environments. For shopping environments, Typical Modern Malls are highly preferred in relation to this relationship, while Outdoor Markets with Vegetation are also moderately related and preferred. These two preference dimensions offer entertainment facilities and other characteristics that offer possibilities for recreation and socialization. The second and weaker relationship, value shopping, is highly influenced by economic and promotion attributes of shopping. Value shopping is related to traditional markets, where a variety of low price products and promotion activities occur in spaces perceived as being of low quality.

It is also important to note that the Outdoor Markets with Vegetation dimension has moderate influences on both recreational and value relationships. These outdoor shopping places contain the characteristics of traditional markets and at the same time offer possibilities for entertainment, socialization, and recreation.

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These findings are also consistent with the analysis of preferred characteristics of shopping environments. The relationships between these topics and the preferred physical environments are also consistent with preferred characteristics in that 1) modern mall environments tend to be perceived as entertainment and recreational places, providing high quality of place and products with high price and offering opportunities for entertainment, recreation and socialization; and 2) traditional environments tend to be perceived as related to shopping value such as low price and variety of products. However, they are also related to low quality of places.

III. Preference and Respondents' Backgrounds

The objectives of this research is to identify people's perceptions and preferences for shopping environments and to provide implications for future developments and improvements. Since people have different backgrounds, they can differ in their shopping attitudes and preferences. The relationship between preference dimensions and respondents' backgrounds provides insight into how different segments of the population perceive and prefer different characteristics of shopping environments. Since preservation of traditional markets includes making them more appealing to a variety of shoppers, it is important to understand different subgroups of shoppers, who the target shoppers are, and what their shopping behaviors are, in order to respond to their preferences.

Two categories of background variables, shopping behavior and socio-economic backgrounds, were used in this survey. Shopping behaviors reflect how people select the place where they shop, when and how long they shop, whom they go shopping with, and where they meet. Socio-economic backgrounds reveal who the shoppers are, based on individuals' social and economic characteristics such as age, gender, income, education, and family status.

The following section discusses results from analysis of the relationship between preference dimensions and respondents' background characteristics. The results are described in terms of background factors that influence preferences for shopping environments. The results are discussed in the following order. 1) Profile of respondents based on shopping behavior and socio-economic backgrounds. 2) Significant results from the analysis of the relationship between preference dimensions and respondents' background characteristics. 3) The important background factors influencing preference. Each of these results is discussed in detail below.

1. Respondent Profile

Respondent backgrounds are measured by two groups of variables: shopping behavior variables, and socio-economic variables. Only variables that yielded significant results are included. Significant shopping behavior variables include who decides where to shop, average time spent shopping, shopping time of day, shopping companion, and where people meet to go shopping. Significant socio-economic variables include family membership, education level, age group, number of children, marital status, employment status, and household income.

Table 5.19: Respondent Profiles by Shopping Behaviors

Respondent Profiles by Shopping Behaviors			
Variable	**Categories**	**Frequency**	**Percent**
Who decides where to shop	Husband	35	9.8
	Wife	127	35.7
	Children	37	10.4
	Together	111	31.2
	Other relatives	46	12.9
	Total	356	100.0
Average Time Spent Shopping	Less than 1 hour	67	18.8
	1-3 hours	222	62.4
	3 hours or longer	67	18.8
	Total	356	100.0
Shopping Time of Day	Morning	57	16.0
	Afternoon	130	36.5
	Evening	169	47.5
	Total	356	100.0
Shopping Companion	Alone	60	16.9
	Family member	172	48.3
	An assistant	5	1.4
	1-2 friends	79	22.2
	3 or more friends	40	11.2
	Total	356	100.0
Where people meet to go Shopping	Prior to shop	149	41.9
	Landmark	63	17.7
	Sitting area	28	7.9
	Specific store	61	17.1
	Restaurant or café	42	11.8
	Other	13	3.7
	Total	356	100.0

Note: Total frequency of each variable = 356; no missing value found for all variables

Who decides where to shop is measured by categories of family members who make this decision. How long people shop is measured by categories of average time spent for each shopping trip. Shopping companion is measured by categories of the relationship to the usual shopping companion, and where people meet to go shopping is measured by categories of places that people arrange to meet when they go shopping. Respondent profiles by shopping behavior variables are displayed in Table 5.19—Respondent Profiles by Shopping Behaviors.

Socio-economic backgrounds of interest include variables that are related to respondents' social and economic statuses. Both social and economic status can affect people's lifestyles and spending, thus influencing preference for shopping environments. Socio-economic variables include family membership, education level, age group, number of children, marital status, employment status, and household income. Respondent profiles by socio-economic variables are displayed in Table 5.20—Respondent Profiles by Socio-Economic Backgrounds.

Table 5.20: Respondent Profiles by Socio-Economic Backgrounds

Respondent Profiles by Socio-Economic Backgrounds			
Variable	Categories	Frequency	Percent
Family Membership	Husband	102	28.7
	Wife	71	19.9
	Children	100	28.1
	Other Relatives	83	23.3
	Total	356	100.0
Education Level	Elementary	47	13.2
	High School	126	35.4
	Associate Degree	39	11.0
	Bachelor Degree	139	39.0
	Master or Higher	5	1.4
	Total	356	100.0
Age Group	20 or under	72	20.2
	21-25	68	19.1
	26-30	37	10.4
	31-40	82	23.0
	41-50	56	15.7
	51 or over	41	11.5
	Total	356	100.0
Number of Children	None	219	61.5
	1-2	102	28.7
	3 or more	33	9.3
	Total	354	100.0
Marital Status	Single	189	53.1
	Married living together	147	41.3
	Married separated	12	3.4
	Divorced, widow	8	2.2
	Total	356	100.0
Employment Status	Working	202	56.7
	Student	108	30.3
	Housekeeping, Unemployed	46	12.9
	Total	356	100.0
Household Income	20,000 Baht or under	158	44.4
	20,001-40,000 Baht	121	34.0
	40,001 or higher	77	21.6
	Total	356	100.0

2. Relationship between Preference Dimensions and Respondents' Background

The relationship between preference dimensions and respondents' backgrounds can be described by magnitudes and patterns of preferences. Magnitudes of preferences are explained by significant differences of preference magnitudes among subgroups for each preference dimension. Patterns of preference are explained by consensus or similarity of preference patterns among different subgroups.

Magnitudes of Preference

The results from MANOVA tests on shopping behavior and socio-economic variables are reported in the following section. Only significant results are reported. The significant results are those that are found statistically significant on all three steps of the tests. The results had to be significant on: 1) Multivariate tests of overall difference; 2) univariate test on each dimension; and 3) post-hoc test of pair comparison of every categorical group on each dimension. As described in the methodology chapter, all of the tests were conducted at .05 significance level.

<u>Shopping Behaviors</u>

Shopping behaviors are described by how people select their shopping environments and how they shop. These factors influence preference for shopping environment via different levels of familiarity with the environments and different levels of shopping needs between recreational and value shopping.

Who Decides Where to Shop

How families select a shopping place influences their preference for shopping environments; this variable was measured by who decides where to shop; the means was compared to find out the differences. The results are reported by dimensions in Table 5.21—Who Decides Where to Shop.

Table 5.21: Who Decides Where to Shop

Who Decides Where to Shop					
	Group Mean Preference				
	Husband	Wife	Children	Together	Other Relatives
Typical Modern Malls*	2.8381	3.1696	3.0438	3.2613	3.3323
Outdoor Markets with Vegetation**	2.6667	2.6522	2.9955	2.9796	2.9303

* Significant at .05 level, ** significant at .01 level

From table 5.21, for Typical Modern Malls, the respondents from families in which the husbands select the shopping place prefer this dimension less (2.8) than those from the families in which all family members select the shopping place together (3.3), and those from the families in which other family members select the shopping place (3.3). One reason for this result may be that families that decide on the place to shop also shop together as big groups. When they go out as a group of family members, they tend to go to places that offer more recreational activities. As reported in a previous analysis, Typical Modern Malls seem to offer the most of the opportunities for socialization and recreation.

For Outdoor Markets with Vegetation, respondents from families in which all family members selected a shopping place together prefer this dimension more (3.0) than those from the families in which the wives selected the shopping place (2.7). One reason for this result may be that Outdoor Markets with Vegetation seem to offer recreational possibilities, but not many of them*** value shopping. The families in which the wives dominate the decision may focus on specific shopping purposes that are value-based, since the wives tend to be responsible for necessary household shopping.

Shopping Duration and Time

Whether time and duration of shopping influence people's preferences for shopping environments is measured by the average time that people spent on each shopping trip, and the time of day that they normally shop. The results are reported in Table 5.22—Average Time Spent Shopping and Shopping Time of Day.

Table 5.22: Average Time Spent Shopping and Shopping Time of Day

Average Time Spent Shopping and Shopping Time of Day			
	Group Mean Preference		
Average Time Spent Shopping**	Less than 1 hr	1-3 hr.	3 hr. or longer
Outdoor Markets with Vegetation**	2.8433	2.7435	3.0821
Shopping Time of Day*	Morning	Afternoon	Evening
Typical Modern Malls**	2.8864	3.2286	3.2281
Traditional Fresh Market*	3.2164	2.8526	2.8590

* Significant at .05 level, ** significant at .01 level

Average Time Spent Shopping

From table 5.22, people who normally spend 3 hours or longer shopping prefer Outdoor Markets with Vegetation more (3.1) than those who normally spend 1-3 hours shopping (2.7). People who spend a longer time shopping may like Outdoor Markets with Vegetation because of the

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opportunities for socialization and recreation made possible through the availability of trees and sitting areas.

Shopping Time of Day

From table 5.22, for the Typical Modern Malls dimension, the respondents who normally shop in the morning prefer this dimension less (2.9) than those who shop in the afternoon (3.2) and those who shop in the evening (3.2). For Traditional Fresh Markets, the respondents who normally shop in the morning prefer this dimension more (3.2) than those who normally shop in the afternoon (2.9), and those who shop in the evening (2.9). People who prefer Typical Modern Malls shop later in the day, when recreational shopping activities are more suitable. On the contrary, people who shop at Traditional Fresh Markets like to shop early, when the products are at their freshest.

Shopping Companion and Meeting Place

People's preferences for shopping environments are defined by whom they shop with and how they meet when they go shopping. The results are reported in Table 5.23—Shopping Companion and Meeting Place.

Table 5.23: Shopping Companion and Meeting Place

Shopping Companion and Meeting Place						
Group Mean Preference						
Shopping Companion**	Alone	Family Member	An Assistant	1-2 Friends	3 or more Friends	
Typical Modern Malls**	3.0222	3.1324	3.9143	3.1766	3.4786	
Traditional Outdoor Markets**	2.0821	2.2589	3.1692	2.3096	1.8865	
Traditional Fresh Markets**	2.8250	3.0552	3.5333	2.8523	2.4833	
Modern Mall with Exposed Products*	2.6333	2.7907	3.8667	2.7131	2.6333	
Where People Meet to Go Shopping *	Prior to Shop	Landmark	Sitting Area	Store	Restaurant or Café	Other
Typical Modern Malls**	3.0113	3.1421	3.3810	3.4208	3.2313	3.3919

* Significant at .05 level, ** significant at .01 level

Shopping Companion

As displayed in table 5.23, the respondents who shop with 3 or more friends prefer Typical Modern Malls more (3.5) than those who shop alone (3.0). The respondents who shop with an Assistant prefer Traditional Outdoor Markets more (3.2) than those who shop alone (2.1), and those who shop with 3 or more Friends (1.9). The respondents who shop with a family member prefer Traditional Fresh Markets more (3.1) than those who shop with 3 or more friends (2.5).

The respondents who shop with an assistant prefer Modern Mall with Exposed Products more (3.9) than those who shop alone (2.6), those who shop with a family member (2.8), with 1-2 friends (2.7), and with 3 or more friends (2.6).

Larger group shoppers (with 3 or more friends) may prefer to socialize and recreate in the environments that offer the most opportunities for socialization and recreation; therefore they prefer Typical Modern Malls. On the contrary, those who shop alone may shop for a necessary purpose, thus needing no recreation. Shopping at fresh markets is more for family food preparation than recreation; therefore, Traditional Fresh Markets are more preferred by those who shop with a family member. The respondents who shop with an assistant generally prefer all shopping environmental dimensions more than other groups (3.2-3.9). One reason for this high preference might be that this group tends to be high-income housewives, who kike, and may be able to afford, all kinds of shopping. However, the size of this group is small (N = 5), resulting in some of the insignificant results. Therefore, the interpretation requires careful consideration

Where People Meet to Go Shopping
Also as seen in table 5.23, the respondents who meet at specific stores prefer the Typical Modern Malls dimension more (3.4) than those who meet prior to shopping (3.0). Typical Modern Malls seem to be the only dimension that offers the opportunity to meet inside the space. Other dimensions, especially traditional environments, make it too difficult to set up a point to meet. It is also possible that modern malls make it easier to create a cognitive map than traditional markets. Therefore, a place to meet can be easily identified.

In conclusion, shopping Behavior variables influence preference for shopping environments. Shoppers who prefer and seek recreational shopping tend to go shopping in big groups of friends, shop at a later time of day, stay longer, and meet at the shopping places. They prefer environments that offer more possibilities for recreational shopping rather than value shopping. On the contrary, shoppers who seek value shopping tend to be lone shoppers, small group family shoppers, and well-to-do housewives who may shop for specific products and purposes; therefore, they tend to prefer those environments that provide value and necessary shopping characteristics rather than recreational characteristics.

Socio-Economic Backgrounds

Socio economic backgrounds includes variables that are related to social and economic characteristics of the population, which are believed to influence preference for shopping

environments. People's preference may be influenced by different shopping needs, which are also influenced by their economic status. The socio-economic variables are divided into two groups according to their similar influences. The first group, comprised of age, family membership, and employment status, is influenced by responsibility. The second group, consisting of income, education, marital status, and number of children, is influenced by the economic status of the household. These two groups show different need s for recreational and value shopping.

Influences of Age, Family Membership, and Employment Status

Age group, family membership, and employment status are described together as the same group of influences. These three variables tend to share similar characteristics of the subgroups categorized by age, level of responsibility, and different needs for recreational shopping and value shopping. The results are displayed in Table 5.24—Age, Family Membership, and Employment Status.

Table 5.24: Age, Family Membership, and Employment Status

Age, Family Membership, and Employment Status						
	Group Mean Preference					
Age Group**	20 or under	21-25	26-30	31-40	41-50	51 or over
Typical Modern Malls**	3.3300	3.2353	3.1292	3.2259	3.1947	2.7027
Traditional Outdoor Markets**	2.1036	2.0520	2.0748	2.3161	2.2019	2.5910
Traditional Fresh Markets**	2.5764	2.6054	2.7162	3.1362	3.1339	3.4512
Outdoor Markets with Vegetation*	2.9097	2.8809	2.8153	2.9512	2.7262	2.4837
Family Membership**	Husband	Wife	Children	Other Relatives		
Typical Modern Malls*	2.9790	3.2095	3.2681	3.2679		
Traditional Fresh Markets**	3.0556	3.1479	2.6583	2.8474		
Employment Status**	Working	Student	Housekeeping/ Unemployed			
Traditional Outdoor Markets**	2.2776	2.0057	2.4030			
Traditional Fresh Markets**	3.0008	2.5725	3.3333			
Modern Malls with Exposed Products**	2.8078	2.5494	2.9239			

* Significant at .05 level, ** significant at .01 level

Age Group

As displayed in table 5.24, the respondents who are 51 years old or over prefer Typical Modern Malls less (2.7) than those who are 20 years old or under (3.3), 21-25 years old (3.2), 31-40 years old (3.2), and 41-50 years old (3.2). In general, older people prefer Typical Modern Malls less than the other age groups, except the 26-30 group.

On the contrary, the 51-or-over group prefers Traditional Outdoor Markets more (2.6) than younger age groups. The 51-year-old and over group prefer Traditional Outdoor Markets more (2.6) than the 20-or -under group (2.1), and 21-25 group (2.1). For Traditional Fresh Markets, the older age groups also prefer this dimension more than the younger age groups. The 51 or over group also prefer Traditional Fresh Markets more (3.5) than the 20 or under group (2.6), 21-25 group (2.6), and 26-30 group (2.7). The 41-50 age group also prefers this dimension more (3.1) than the 20 or under group (2.6), 21-25 group (2.6). The 31-40 group prefers this dimension more (3.1) than the 20 or under group (2.6), and the 21-25 group (2.6). For Outdoor Markets with Vegetation, the 31-40 group prefers this dimension more (3.0) than 51 or over group (2.5).

Table 5.24 shows a clear pattern of relationship between age and preference dimensions. In general, the older the shoppers, the more they prefer traditional environments. On the contrary, the younger the shoppers, the more they prefer modern malls. Different patterns can be also seen in table 5.24. For Outdoor Markets with vegetation, the middle age group (31-40) prefers this dimension more than the older group (51 and over).

Older shoppers may be more familiar with traditional environments and traditional ways of shopping, including negotiating and socializing with the sellers. On the other hand, younger shoppers may like modern malls for the opportunities for socialization and recreation. The middle group (31-40) may prefer Modern Malls with exposed products, which offer both value (discounted products) and comfort (air-conditioning).

Family Membership

As shown in table 5.24, the respondents who are children in the family prefer Typical Modern Malls more (3.3) than those who are husbands (3.0). Children respondents also prefer Traditional Fresh Markets less (2.7) than the husband respondents (3.1) and the wife respondents (3.1). Children shoppers are younger; thus, they tend to have less responsibility for family shopping, and tend to enjoy more the recreational activities offered in Typical Modern Malls. In contrast, parents (husband and wife respondents) have higher responsibility for family shopping; therefore, they prefer fresh products at the low prices offered in Traditional Fresh Markets.

Employment Status

As also shown in table 5.24, as with age and family membership, student shoppers prefer Traditional Outdoor Markets less (2.0) than working shoppers (2.3) and housekeeping and unemployed shoppers (2.4). Student shoppers also prefer Traditional Fresh Markets less (2.6)

than working shoppers (3.0) and housekeeping and unemployed shoppers (3.3). In addition, housekeeping and unemployed shoppers prefer Traditional Fresh Markets more (3.3) than working shoppers (3.0). Student shoppers prefer Modern Malls with exposed products less (2.5) than working shoppers (2.8) and housekeeping and unemployed shoppers (2.9).

Student shoppers are younger, have less responsibility, and enjoy recreation shopping in places that offer more opportunities to entertain and recreate. Therefore, they like traditional environments and modern environments with exposed products (where value shopping is more obvious) less than working, housekeeping and unemployed shoppers. Working and housekeeping and unemployed shoppers are older, and have more responsibility in their families; thus, they prefer places with more shopping value rather than entertainment.

This group of variables explains a similar relationship between preference and socio-economic backgrounds. Age, family membership, and employment status reflect similar characteristics of the respondents. These characteristics are related to different levels of responsibility for family shopping, which affect different needs with regard to recreational and value shopping purposes. It is also important to note that older shoppers may be more familiar with traditional lifestyles and environments than younger shoppers, leading to a higher preference for traditional environments.

Influences of Income, Education, Marital Status, and Number of Children

Income group, education level, marital status, and number of children in the household are discussed together as the same group of influences. These four variables share similar characteristics of the population groups that have different economic responsibilities which influence different recreational and value shopping needs with regard to shopping environments. The results are displayed in Table 5.25—Household Income, Education Level, Marital Status, and Number of Children.

Household Income

As seen in table 5.25, the respondents with high household income of 40,001 Baht or higher prefer Traditional Fresh Markets less (2.6) than those with a low income of 20,000 Baht or under (3.0), and a mid-income of 20,001-40,000 Baht (3.0). High-income shoppers can afford to shop any place; however, they prefer the opportunities for entertainment and recreation in the clean, convenient and comfortable environments of modern malls rather than the value shopping offered by Traditional Fresh Markets, in which conditions are rather uncomfortable. On the contrary, lower-income shoppers are concerned more about price, and are attracted to the value shopping

characteristics offered by Traditional Fresh Markets. Another explanation for this phenomenon may be that, in general, lower income people tend to be more traditional in lifestyle than higher income people, who tend to be more familiar with the international characteristics of modern environments and imported products.

Table 5.25: Household Income, Education Level, Marital Status, and Number of Children

Household Income, Education Level, Marital Status, and Number of Children					
Environmental Dimension	**Group Mean Preference**				
Household Income*	20,000 B or under	20,001-40,000 B	40,001 or higher		
Traditional Fresh Markets **	2.9610	3.0413	2.6169		
Education Level	Elementary School	High School	Associate Degree	Bachelor Degree	Master or higher
Traditional Outdoor Markets**	2.3028	2.3779	2.2327	2.0094	2.6000
Traditional Fresh Markets**	3.1738	3.0635	2.9701	2.6595	3.3333
Marital Status	Single	Married, Together	Married, Separated	Divorced/ Widow	
Traditional Fresh Markets**	2.6728	3.1531	3.6389	3.1250	
Outdoor Market with Vegetation*	2.9272	2.7574	2.2778	2.5208	
Number of Children	None	1-2	3 or more		
Traditional Outdoor Markets**	2.1272	2.2526	2.6014		
Traditional Fresh Markets**	2.7230	3.2092	3.2374		

* Significant at .05 level, ** significant at .01 level

Education Level

As also shown in table 3.25, the respondents with a Bachelor Degree prefer Traditional Outdoor Markets less (2.0) than those with a High School certificate (2.4). The Bachelor Degree group also prefers Traditional Fresh Markets less (2.6) than the elementary school group (3.2), and high school group (3.1). The higher education group tends to have higher social status and probably higher income, so that they are more familiar with, and in favor of, more international and comfortable environments rather than traditional environments, which are less comfortable with no air-conditioning and less maintenance. In addition, recreational shopping may be more important to this group than value shopping, which is more important to the lower education group.

Marital Status

Table 3.25 shows that single respondents prefer Traditional Fresh Markets less (2.7) than respondents who are married and/or living together (3.2), and married but separated respondents

(3.6). However, single respondents prefer Outdoor Markets with Vegetation more (2.9) than married but separated respondents (2.3).

Single shoppers may have less responsibility for shopping for the family; therefore, they prefer Traditional Fresh Markets less than married shoppers, who have more responsibility for family shopping, especially food preparation. These shoppers may also look for the recreational shopping activities offered in Outdoor Markets with Vegetation, while the married but separated shoppers might look for value shopping. Married but separated shoppers may be single parents who have high responsibility; therefore, they are more concerned about value more than other groups.

Number of Children

As can be seen in table 5.25, shoppers who have no children prefer Traditional Outdoor Markets less (2.1) than those who have 3 or more children (2.6). Shoppers with no children also prefer Traditional Fresh Markets less (2.7) than those with 1-2 children (3.2) and those with 3 or more children (3.2). This preference pattern might be influenced by both family responsibility and economic status. Shoppers with no children may have more time, less responsibility, and possibly more disposable income. Therefore, they are less attracted to traditional shopping environments, where value and specific products are evident. They may look for more of the recreational and social activities in shopping environments.

In conclusion, the socio-economic backgrounds of shoppers affect their preference for shopping environments. These socio-economic background variables are mutually related. These variables are related to responsibility and the economic status of the respondents. Respondents with more responsibilities for the household and with lower economic status may have less time and disposable income than those with less responsibilities and higher economic status. Time and disposable income, therefore, tend to lead to recreational shopping rather than value shopping.

Household income and number of children affect how much disposable income the family has. Families with equal household income but a different number of children may have different amounts of dispensable income. Similarly, education level and income are also related. Finally, marital status and number of children are also related in terms of responsibility for family shopping. This group of variables explains a similar relationship between preference and socio-economic backgrounds of the respondents. Responsibility and economic status influence the needs for different shopping purposes, recreational and value shopping. It is also important to

note that lower social status and lower income shoppers may be more familiar with traditional lifestyles and environments than higher social status and higher income shoppers, leading to a higher preference for traditional environments.

Patterns of Preference

Consensus of preference is explained by preference patterns among subgroups. From the MANOVA test of significant differences in preference magnitudes, age group and household income group were the major characteristics found to have the greatest influences. Difference and similarity of preference patterns are illustrated by the ranked preferences for preference dimensions among age and income groups.

Age Group

From analysis of magnitudes of preference, age groups have been found to significantly influence preference for the environments. The differences in magnitudes of preference also revealed patterns. Patterns of preference by age groups are displayed in Table 5.26—Preference Means by Age Groups.

Table 5.26: Preference Means by Age Groups

Preference Means by Age Groups													
Overall Rank		Group Mean Preference											
	Preference Dimensions	20 or under		21-25		26-30		31-40		41-50		51 or over	
1	Typical Modern Malls	(1)	3.3300	(1)	3.2353	(1)	3.1292	(1)	3.2259	(1)	3.1947	(3)	2.7027
2	Traditional Fresh Markets	(4)	2.5764	(3)	2.6054	(4)	2.7162	(2)	3.1362	(2)	3.1339	(1)	3.4512
3	Outdoor Markets with Vegetation	(2)	2.9097	(2)	2.8809	(2)	2.8153	(3)	2.9512	(4)	2.7262	(5)	2.4837
4	Modern Malls with Exposed Products	(3)	2.6574	(3)	2.6054	(3)	2.7793	(4)	2.8272	(3)	2.8720	(2)	2.7561
5	Traditional Outdoor Markets	(5)	2.1036	(5)	2.0520	(5)	2.0748	(5)	2.3161	(5)	2.2019	(4)	2.5910
	N		72		68		37		82		56		41

Note: Ranks of preference means within age groups are provided in parenthesis.

From Table 5.26, there are both difference and similarity in the patterns of preference by age groups. The difference is in that most age groups liked the typical modern malls dimension the most and traditional outdoor markets the least, while preference pattern of the oldest group (51 and over) is quite different from the others. This group liked traditional fresh markets dimension the most, following by modern mall with exposed products, typical modern malls, traditional outdoor markets, and they liked outdoor markets with vegetation the least. Moreover, the difference is apparent for traditional fresh markets. The three older groups liked this dimension

more, while the three younger groups liked it less. The patterns can be better illustrated in Figure 5.12—Preference by Age Groups.

Figure 5.12: Preference by Age Groups
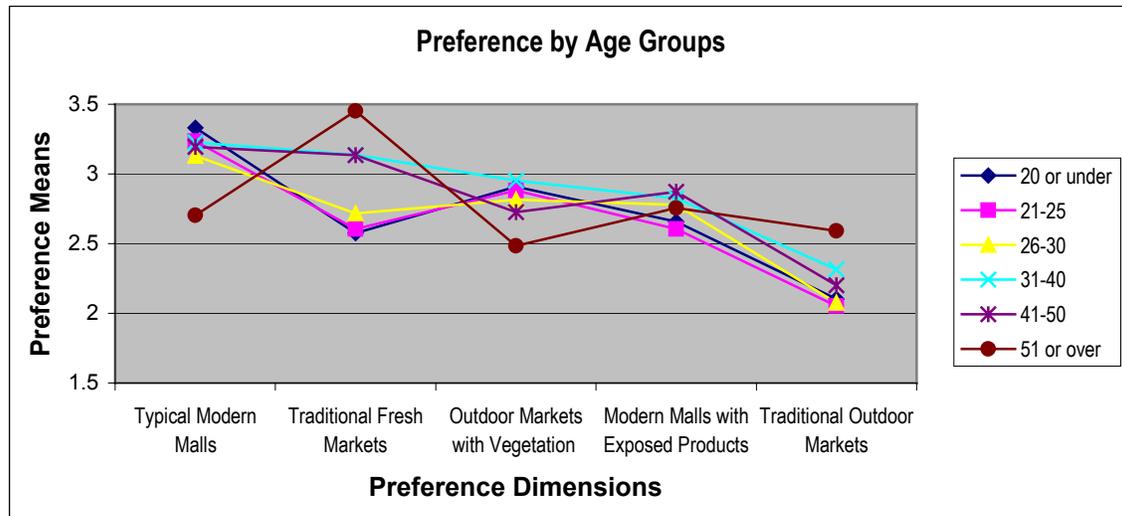
From Figure 5.12, the similarity of preference patterns can be described by three sets of age groups. The three younger age groups (20 and under, 21-25, and 26-30) have similar patterns of preference. Two older age groups (41-40 and 41-50) have similar patterns, while the oldest group (50 and over) has a different pattern. This can be interpreted as age having a positive effect on preference for traditional fresh markets and modern malls with exposed products, which tend to be product dominated dimensions. In other words, the older shoppers may be more interested in buying products rather than other feathers that are normally perceived in typical modern malls.

Household Income Group

Household income groups have been found to have different magnitudes of preference for traditional fresh markets dimension. However, the patterns of preference among household income groups tend to be similar. The patterns of preference by household income groups are displayed in Table 5.27—Preference Means by Household Income Groups.

Table 5.27: Preference Means by Household Income Groups

Preference Means by Household Income Groups					
Overall Rank	Preference Dimension	Household Income Groups			
		20,000 or under	20,001-40,000	40,001 or higher	Total
1	Typical Modern Malls	(1) 3.1558	(1) 3.1566	(1) 3.2365	3.1735
2	Traditional Fresh Markets	(2) 2.9610	(2) 3.0413	(4) 2.6169	2.9139
3	Outdoor Markets with Vegetation	(4) 2.7648	(3) 2.8567	(2) 2.9035	2.8260
4	Modern Mall with Exposed Products	(3) 2.7848	(4) 2.7672	(3) 2.6255	2.7444
5	Traditional Outdoor Markets	(5) 2.2439	(5) 2.2943	(5) 2.0140	2.2113
	N	158	121	77	356

Note: Ranks of preference means within income groups are provided in parenthesis.

The patterns of preferences of all incomes are somewhat similar. The major similarity is that all groups preferred Typical Modern Malls the most and Traditional Outdoor Markets the least. However, the small difference is in the order of preference means for three other dimensions of all groups. The noteworthy difference is that lower and middle-income groups had almost identical patterns of preference, while the higher income group had a slightly different pattern. Lower and middle-income groups liked Traditional Fresh Markets the second, while the higher income group placed this dimension near the bottom (fourth). The higher income group also liked traditional markets less than other groups. The patterns of preferences of different household income groups are better illustrated in Figure 5.12—Preference Means by Household Income Groups.

Figure 5.13: Preference Means by Household Income Groups
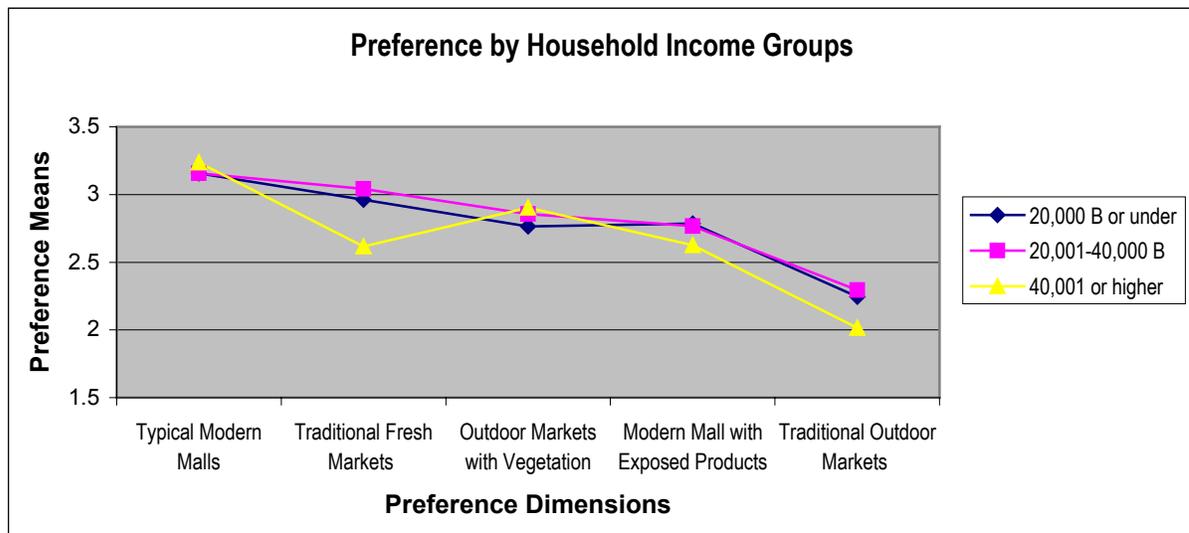
From Figure 5.12, it can be concluded that, in general, there is no difference between the preference patterns of shoppers with different household incomes. From the preference patterns, all groups preferred Typical Modern Malls the most and Traditional Outdoor Market the least. This pattern is a result of the difference of physical characteristics as already discussed in the previous section—the preferred environmental characteristics. These patterns can be interpreted as showing that shoppers, regardless of income, have similar preferences for the characteristics of shopping environments. However, higher income shoppers may be more likely to be attracted to recreational features perceived in outdoor markets with vegetation than traditional fresh markets, which they may perceived as more value-oriented shopping places.

It can be concluded from the patterns of preference by age and household income groups that: 1) Shoppers in different age groups tend to have difference preferences for physical characteristics of shopping environments, especially older shoppers who tended to like functional and value shopping more than recreational shopping. 2) Shoppers in different household income groups tend to have similar patterns of preference, except that the higher income group tended to favor recreational shopping. In other words, the age of shoppers influences difference in the patterns of preference for physical characteristics of shopping environments, while household income does not. This difference might be a result of familiarity with the traditional style of shopping activities and different needs for recreational and value aspects of shopping.

3. Important Background Factors Influencing Preference

These shopping behavior and socio-economic background variables together help triangulate the findings, which are not sufficiently explained by one variable. Age, together with family membership and employment status, helps explain the differences by responsibility. Income, together with education level, marital status, and number of children helps explain the differences by socio-economic status. In conclusion, the important background factors influencing preference for shopping environments can be described by group shopping behaviors, family shopping responsibilities, and socio-economic status.

1. Large group shopping behaviors affect the need for recreational shopping, while smaller group or family-oriented group shopping behaviors affect the need for value and specific shopping.

2. Individual backgrounds such as age, family membership, and employment status indicate different levels of responsibility for necessary family shopping. These responsibilities affect

different shopping needs. The more responsibilities shoppers have, the higher the tendency to prefer value shopping. On the contrary, less responsibility leads to more recreational shopping.

3. Household economic status influences responsibility and, naturally, the disposable income of families. The more responsibilities and the less disposable income that shoppers have, the greater the tendency for them to look for value shopping. On the contrary, shoppers with less responsibility and more disposable income are more inclined to recreational shopping.

4. Age and social status (as defined by income and education) influence lifestyles and familiarity with environments.   Older and lower social status shoppers tend to be more familiar with traditional lifestyles, including traditional style shopping and environments.

The results from the analysis of the relationship between preference dimensions and respondents' backgrounds provide understanding about different characteristics of shoppers who have different preferences for shopping environments. This information is valuable for improving traditional markets in the following ways: 1) Traditional markets can be improved according to the preferences of subgroups of shoppers that previously preferred the markets less than other groups. 2) Understanding the characteristics and behaviors of these subgroups of shoppers provides possibilities to target them by addressing their preferences for shopping environments.

IV. Interviews with Developers, Designers, and Managers

To provide logical strategies for improving traditional markets, it is necessary to understand the attitudes and perceptions of those who provide the environments. As providers of the environments, developers, designers, and managers are involved in the process of development, design, and management of shopping environments. Their decisions affect the appearance of shopping environments. Although, their goals are to serve the customers, their perception of the important aspects of shopping environments may be different from those of the shoppers. Therefore, information from the interviews can be compared with the previous results of the survey of shoppers, and can be used to identify logical strategies for future development and improvement of shopping environments.

Results from the interview procedures are reported in the following section. The results are described by environmental types, modern and traditional environments. Each part is comprised of results from developers, managers, and designers of the environment. The descriptions are

organized by the established themes of the questions, which include background of the interviewees, process and prototype, customers, objective, important factors and elements, and recent situations and future trends. Finally, the information from interviews is discussed in comparison with the results from shoppers. Each of these elements is discussed in detail below.

Modern Environments

Developers, designers, and managers of modern environments were interviewed. The information can help people understand how the modern shopping environments were developed, designed, and managed as they appear and how could they possibly be improved. Modern environments are normally developed and managed by large companies. The process of development and design of modern shopping environments is sophisticated and rather complicated. The results are reported by the following topics of the questions.

Interviewee Backgrounds

The interviews with modern environment professionals developers include two developers, two managers, and three designers of modern environments. Two developers have been involved in both the development and management process of modern shopping environments. One developer has dealt with enclosed modern malls, while another has dealt with modern outdoor centers. Two managers have been involved with the management and renovation process of enclosed modern malls. All of the three designers have dealt with enclosed modern malls.

The Process and Prototype

In general, the developers initiate the projects. They normally start by acquiring a piece of land for development. Developers conduct a feasibility study and customer research for the land and the location. If the project is feasible, the developers also provide the program for what is to be built, what facilities should be included, and what the theme or concept for this project is. In some cases of large malls, the concept may be developed by specialists, who are foreign companies specialized in retail planning and design. If the developers hire a specialist, the specialists may provide a complete scope of retail layout, general theme and concept, and architecture design.

Local architects take part in the process at two different stages. If there is no specialist involved, local architects may provide a design concept, and architectural and detail design for the center. If there is a specialist involved, local architects may only provide design development and adjustment to the site and regulation. Throughout the process, developers need to review and

approve what the designers propose for the design to ensure compatibility with the theme and target clients.

Prototype plays an important role in the development and design process. The objective of the development is usually already decided: a shopping mall. Once developers decide to build a "shopping mall," they have already adopted the shopping mall prototype. They also look at examples from America, Europe, and sometimes Japan. Shopping specialists also implement the prototype that they normally use in the development of shopping malls.

Designers are normally commissioned to design enclosed malls. Prototype is always a part of the requirement of the project. In many cases, designers accompany developers to see western examples. Therefore, most of the time, the development and design process of the modern mall adjusts the prototype to fit into specific contexts, which normally mean site restriction, building codes and regulations, and target clients.

Customers

Developers and designers believe that prospective customers are the most important factor in development of shopping malls. Customers are generally defined by grade or class, characterized mainly by income and, sometimes, age. Income and age are indicated by location. Nearby residential neighborhoods, business areas, and educational institutions indicate the characteristics of the prospective clients for a shopping mall. Normally, shopping malls target customers of all ages with mid to high-income level. Some small shopping malls may target more specific customers. Modern mall developers believe that their customers had an income level from the middle up, and that the customers of traditional markets had income levels from the middle down. Customer research was normally conducted by research companies, but sometimes small, specific customer research may be conducted by an in-house research department.

Objectives, Important Factors, and Elements

Developers defined their objective as maximizing profits by creating the most traffic inside the centers. This can be achieved by implementation of a good product mix, good service, good packaging, entertainment, and an atmosphere that is appealing to the target customers. In most cases, the center's profits are determined by location of the center and income of the customers.

Designers defined their objective so as to meet the developer's requirements. Their objectives can be achieved by design of the environments. The planning of the center is mostly derived by prototype. Therefore, designers mostly deal with appearances, which depend on the designers but

also need to be approved by developers. Designers stated their concept as aesthetic-oriented, as in the concept of the best-looking place that the budget allows. The specific description is rather symbolic and abstract, such as classy or interesting, which they defined as appropriate to their clients' tastes. In particular, some designs were mentioned as being modern and futuristic.

Both developers and designers believed that experience is the most important factor in decision making about the development and design of a shopping mall. This experience includes the experience of dealing with shopping mall developers, the experiences of designers who design shopping malls, managers' experiences of managing shopping malls, and the knowledge and experience of retail and shopping mall specialists. Other less important factors that were mentioned are customers' behavior, research, and (the least important) culture and tradition. However, when it comes to the project, location was mentioned as the most important factor in development. When asked about physical elements of shopping environments, developers and managers mentioned important physical elements such as:

- Common areas, which sometimes include small retail carts and cafés.

- Simple layout, using single corridor and simply store arrangement

- Open well, for comfort and visibility of all stores

- Anchor, which may not be required if located in a high traffic location

- Enough quantity of retailers to be attractive

- Atmosphere; decoration, natural light, cleanliness, safety

Some managers also mentioned activity as an attractive element. Moreover, for a developer of modern outdoor centers, activities are the most important elements that attract customers, especially from the younger generation. Designers mentioned important physical elements such as:

- Gathering space, sitting areas, landscape, and recreation areas if well planned

- Facilities

- Simple layout

-         Convenience parking and access

-         Equally exposed stores

-         Architectural design; only in higher market

-         Interesting space and approach

-         Style: interior rather than exterior

-         Open well

Although developers and managers recognized that customers might like sitting areas and amenities, some of them stated that they did not encourage resting and socializing activities that are not related to sales activities. They stated that increasing traffic is good; however, they focus on buying activities.

Recent Situations and Future Trends

Both developers and designers believe that the current appearances of shopping malls with stalls and exposed products are a result of the recent economic downturn. According to the developers, many people have lost their jobs, or have experienced lower incomes. The major effect on malls was in the form of the lower purchasing power of customers. They bought less brand-name products, and more from small retailers with negotiable prices. Retailers were not expanding their businesses and some also left the malls. This resulted in vacant spaces in shopping malls, causing lower rental prices. Shopping malls raised their income by filling the vacant spaces and also some common spaces with a large number of small retailers, who could only afford small spaces. More people have also turned themselves into small retailers. According to developers, this phenomenon caused the current conditions in shopping malls.

This small retailers' condition takes the form of the Modern Malls with Exposed Products dimension. This condition may attract people because of low and negotiable prices. One developer/manager stated that this condition was used as an advantage, attracting people the same way as traditional environments—variety of products at low and negotiable price. However, other developers and designers of modern malls believed that this condition was only a temporary strategy to survive. They also stated that this condition degraded the overall atmosphere of shopping malls, and needed to be controlled by management. Designers believed that dealing with this condition was not within the scope of their design. Some designers also believed that

Thai people might be familiar with and prefer with this condition because they looked like traditional markets.

In addition, both developers and designers believed that no large mall would be constructed in Bangkok in the near future, due to economic conditions and an oversupply of shopping mall spaces. However, developers believed that people would spend more time in shopping malls. A designer predicted that people would depend on shopping malls more for recreational purposes, such as dining out, socializing, and buying hobby-related products. Anchors would be more entertainment-related facilities rather than department stores, since people would go to the malls for socializing and special interests rather than buying specific products, which they could also buy at other retail outlets.

Traditional Environments

Developers, designers and managers of traditional environments were interviewed. The information can provide understanding about how traditional shopping environments were developed, deigned, and managed. However, not many traditional markets were newly developed. Most of them were existing public markets that had been developed a long time ago, and private traditional markets are very few. The process of traditional shopping environments is simpler and not complete, compared to the development and design process of modern environments. Most of the markets were not designed by the designers. The interviewees from traditional shopping environments represent those who were involved with the development, design, and management of existing traditional shopping environments. The results are reported by the following topics of the questions.

Interviewee Backgrounds

Three interviewees who dealt with traditional environments were interviewed. One developer, one manager, and one planner were included. The developer has dealt with the development and management of a privately-owned traditional fresh market. The manager has dealt with several public traditional weekend markets. The planner has been involved in planning a large traditional weekend market in Bangkok.

The Process and Prototype

The development processes of private and public markets are different. According to the developer, private markets use a similar development process to the process of modern malls, which includes studying the market and feasibility. Requirements are defined by a feasibility

study, resulting in number and size of units, and the desire for low-cost construction. On the other hand, the public market process, according to the manager, is based on the availability of land that the city owns and which can be used as public market. The space requirement is derived from the largest possible number of rental units. The unit size and width of circulation aisles are derived from those used in previous projects or existing markets. In general, the requirements tend to be maximizing the number of retail units and minimizing the size of circulation and retail units.

The use of the traditional market prototype is evident in the repetition of the standard from existing traditional markets. The private market can be seen as an improvement of the usual public markets, with slightly wider aisles and larger retail unites. The structures are minimal, including only roof and columns. The private market also includes open spaces and sitting areas, while in a public market, the open area has often been converted into more units, and sitting areas are not provided.

Customers

The manager of a public market stated that customers of traditional markets are the general public from all income levels, especially low-income customers. The private market developer also stated that the clients were general public with all income levels. The developer of private market also mentioned that the market was aimed at helping low-income people; however, he also recognized that actual clients seemed to have higher income because of the higher price of the products. The developer of the private market stated that the customers of private markets are working customers coming in for lunch, older or retired customers during the day, and general customers in the evening.

Objectives, Important Factors, and Elements

According to the developer, the objectives of public market are to serve the public by providing the outlet for small manufacturers, retailers, and customers, and to continue the tradition. The objective of the private market was also stated as providing people low priced, fresh products; however, the developer also admitted that they are also trying to make a profit.

The most important factor in decision making in development and design was mentioned as experience with traditional shopping environments. The developer and manager defined the most important aspects of traditional markets as:

- Affordable, negotiable price

- Variety of products

- Specialty and unique products

- Product quality

- Discipline of sellers

The important physical elements were defined as:

- Cleanliness of place

- Safety

- Order

- Larger units and wider aisles

- More parking spaces

The planner also added the following aspects:

- Ever-changing and lively place

- Meeting places for people with the same interest (weekend markets)

- Sitting and socializing areas

- Central space with trees

- Multiple isles help distribute customers

However, the planner also believed that the attractive aspects of traditional markets, such as lively and ever-changing place, could not be deliberately designed, but naturally happen from the long-term adjustment and use of sellers and customers.

Recent Situations and Future Trends
According to the developer and manager of traditional markets, the economic downturn did not have a negative influence on traditional markets, since people tended to buy lower-priced

products. The public market became so popular that some retailers subleased their units for better profit, making the overall price higher.

Both developers and designers of traditional markets believed that modern shopping malls have a different market. For the modern shopping environments that sell products at a similar price to those of discount or superstores, the developer of the private fresh market stated that the traditional market offers fresher and higher quality products at competitive prices. The same developer also believed that although the younger generation now seems to prefer the modern environment, they would turn to prefer traditional markets when they are older.

Conclusion with the Information from Survey of Shoppers

It is noteworthy that, when asked the same questions about shopping environments, designers tended to answer in the same way as developers. They probably received the rationales from developers in development of shopping environments. In addition, the use of prototype in development and design of both modern and traditional environments is evident. Developers, designers, and managers believed that the most important factors about developing shopping environments are business-related factors such as location, product mix, experience in doing retail business, and dealing with shopping environments.

In general, developers and designers seem to know what customers wants in terms of physical elements. When they responded to the questions on important elements, they were able to mention the important aspects of their environmental types, compared to the information derived from the survey of general shoppers. However, they did not intend to provide free recreational activities such as sitting areas in the common spaces. Moreover, they tended to believe that shoppers with different backgrounds do have different preferences for different types of shopping environments. The backgrounds they mentioned seem to be based on the income of shoppers.

Significant differences in magnitudes of preference means were found between income groups for Traditional Fresh Markets dimension, as previously reported; however, the patterns of preference were not different. Table 5.27 and Figure 5.13 showed similar patterns of preferences among all three income groups. All groups preferred Typical Modern Malls the most and Traditional Outdoor Markets the least. The small difference was in the order of preference means for three other dimensions of all groups. The noteworthy pattern is that lower and middle-income groups had similar patterns of preference, while the higher income group had a slightly different pattern.

In general, it was concluded that there was no difference between the preference patterns of shoppers with different household incomes. Therefore, what developers, designers, and managers believe, that preference for physical characteristics of shopping environments depended on class or income, is incorrect. All groups preferred Typical Modern Malls the most and Traditional Outdoor Markets the least. This pattern resulted in the difference of physical characteristics as already discussed in the previous sections. In addition, the previous section has shown that there were several more shoppers' background variables that were found to influence preference.

However, some developers were somewhat correct when they mentioned that they tried to target certain age groups. Age groups have been found to be different in both magnitudes (Table 5.24— Age, Family Membership, and Employment Status) and patterns (Table 5.26—Preference Means by Age Groups). The statement that younger shoppers liked modern malls, while older shoppers liked traditional markets seemed to be correct according to the magnitudes and patterns of preference. Developers could do better addressing shoppers by age rather than income.

This dissertation focuses on identifying whether the perceptions of developers, designers, and managers of the physical characteristics of shopping environments are similar to the perceptions and preferences of shoppers. From their responses, developers and designers of modern environments tend to recognize that sitting areas, vegetations and spaciousness are important characteristics of shopping malls. Similarly, developers, planners, and managers of traditional markets also know that order, maintenance, and spaciousness are positive aspect of markets. However, their recognitions tend to be based on general knowledge about the overall standard, such as that a good shopping mall is supposed to have these elements, or that a good traditional market is supposed to be clean and well ordered. They do not realize why or how important each element and condition is to shoppers, and may not know how to implement the characteristics that meet the shoppers' preferences.

First, developers of modern environments provide the important elements in terms of availability without recognizing how customers perceive them. Customers tend to perceive and prefer these elements as opportunities for them to wander, gain more information, rest, and socialize, rather than as luxurious decorative elements. The developers see these important elements as luxurious decorative elements by the perceived level of customer income that can encourage sales.

Second, similar to developers, the designers intended to design environments that look good and are suitable to the class of the shopping environment that is related to the expected customers'

income, and implement these elements with rather abstract and symbolic concepts such as modern, futuristic, or nature exploration rather than opportunities for wandering further, resting, socializing, and recreating.

Third, developers and managers of traditional markets tend to neglect the recreational aspect of shopping, such as the appearance of elements that encourage resting and socializing in shopping environments. Planners or designers may recognize the importance of these characteristics; however, designers did not always design traditional shopping environments. Their services were limited only to initial planning of units and circulations, and the minimal design of low-cost structures. Moreover, decoration, or providing additional elements such as vegetation and sitting areas, are not perceived as an objective of traditional markets. Therefore, these important elements were not implemented into the physical characteristics of the traditional markets.

Fourth, for traditional environments, the developers and managers (especially of public markets) maintain the quality of space such as cleanliness and orderliness by enforcing strict rules. However, the enforcement and their maintenance are not very effective compared to private practice, and public markets do not intend to provide vegetation and recreational facilities. Moreover, the rules do not allow individual tenants to provide positive elements beyond their rental units. This aspect is clearly evident from the preferred characteristics of Outdoor Markets with Vegetation showing vegetation and sitting areas at the leftover space between two aisles. Nevertheless, these preferred elements were provided by individual retailers in public areas; thus, according to the manager interviewed, these positive elements are considered against the official rules.

IV. Conclusion of Findings in Response to Research Questions

This section concludes the findings as responses to the posed research questions. The section is described by three major factors that influence preference for shopping environments and the comparison with factors from developers, designs, and managers. The factors includes: 1) Environmental factors, which are derived from the analysis of the most and least preferred scenes and the analysis of preference dimensions; 2) shopping factor, which is derived from the relationships between preference dimensions and shopping attributes; and 3) shoppers' background factors, derived from the relationships between preference dimensions and shopping behaviors and socio-economic backgrounds variables.

The information from these findings is used to answer the research questions. The following section describes how the questions are answered in terms of how people perceived shopping environments, the preferred characteristics of shopping environments, relationships between preference and perceived importance of shopping attributes, relationships between preference and respondents' backgrounds, and finally the important factors from developers, designers, and managers compared to the information from shoppers.

1. Environmental Factors

The results from both analysis of most and least preferred scenes and the analysis of preference dimensions provide information about the perceived characteristics of shopping environments that influence preference. They are described by the ways in which people perceive shopping environments and the preferred characteristics of shopping environments. Each of these topics is discussed in detail below.

How People Perceive Shopping Environments

From the sampling of scenes from various current shopping environments in Bangkok Thailand, the first question addresses the issue of how people perceive shopping environments and distinguish between traditional and modern shopping environments. The question attempts to reveal whether people perceive the similarities and differences among different traditional and modern shopping environments. This issue is addressed by answering the following question.

Question 1: How do people perceive the differences among different traditional and modern shopping environments?

The common characteristics of preference dimensions and the major categories from the content analysis of respondents' comments revealed that people perceived shopping environments by: spatial configuration, organization and display of physical elements, physical contents, and environmental conditions. They also interpreted the above characteristics in terms of atmospheric characters such as luxurious, warm, pleasant, and comfortable, and then they expressed overall judgments such as like or a desire to be in the place.

By perceiving the different physical characteristics, the results proved that people react differently to traditional and modern shopping environments. They are able to distinguish between traditional markets and modern shopping malls. This distinction validates the existence of traditional markets as a vernacular type. This also means that people do have primary

schemata or prototypes of traditional and modern shopping environments in their mind. When they see a scene, they match it with the prototype, and their reactions are guided by the information provided by the prototype.

The evidence is provided by the results of factor analysis. Of the 5 extracted preference dimensions, two dimensions—Outdoor Traditional Markets and Traditional Fresh Markets—are comprised of scenes depicting only traditional shopping environments. The other two dimensions—Typical Modern Malls and Modern Malls with Exposed Products—are composed of scenes from modern shopping environments. The only exception is a dimension called Outdoor Markets with Vegetation, which includes scenes from both traditional and modern environments. This dimension is based on the amount of vegetation rather than type. This dimension is, however, dominated by the scenes from traditional environments that possess a high amount of vegetation.

People perceived the differences between the characteristics of traditional and modern shopping environments and recognize the scenes accordingly. They perceive a well-finished and decorated, clean, wide and spacious space as a modern shopping environment, and perceive no decoration, tight, narrow, and less maintained space as a traditional shopping environment. They even made comments on the invisible or inferred characteristics such as selection and price of products, smell, and temperature of the environments. Not only the preferred characteristic but types of environments also influence their preference. When people recognize a scene as a type, they also cognitively associate the scene with positive and negative characteristics specific to the type.

How do people perceive the similarity and differences in physical conditions and organizations of space of the different types of traditional and modern shopping environments?

The results of this study also show that people are able to perceive differences within the types of traditional and modern shopping environments. They distinguish subtypes by variation of spatial configurations and organization of elements. People recognize the differences in the width of walkways, the configuration of stores or product stalls and circulation areas, and how products are displayed.

The differences are also supported by the dimensional analysis results. Traditional environments are grouped into two sets. Two traditional dimensions show differences in common characteristics. Traditional Outdoor Markets are comprised of traditional markets with less

structured and less organized outdoor spaces, while Traditional Fresh Markets include indoor spaces that are more structured, with circulation and stalls and neat organization of product displays. For modern environments, Typical Modern Malls are comprised of spacious spaces with wide walkways, and well-organized stores and product displays, while Modern Malls with Exposed Products include modern mall spaces with exposed products on stalls, leaving narrow walkways in between them.

People also base their evaluations on whether the scene is a traditional or modern shopping environment. When people evaluate a scene, it is matched with a prototype, and assigned a relative preference according to the type. Variation within the type also adds more information for evaluation. When the scene shows positive or negative characteristics, whether spatial, content, or condition, preference is negotiated accordingly. This attribute is supported by the fact that scenes from the same type receive relatively similar preference mean scores. When scenes show positive characteristics such as trees, sitting areas, or fresh products, they receive higher preference than others from the same type. On the contrary, when scenes show negative characteristics such as crowded conditions or obtrusive elements, they receive relatively lower preference.

Preferred Characteristics of Shopping Environments

Characteristics of the environments are the major sources of differences in preferences. Characteristics are also related to whether the environment is a traditional or a modern shopping place. Common characteristics from analysis of the most preferred scenes, and a comparison of preference by dimensions, provide a basis for answering the following question on characteristics.

Question 2: What are the environmental factors that influence preferences for different shopping environments?

In general, people prefer environments that possess positive characteristics such as spaciousness, neat organization, preferred contents, comfort conditions, pleasant atmosphere, and convenient function. Specifically, the combined results and the frequent comments suggest 5 broad reasons for differences in preferences by environmental factors:

- The spaciousness of space
- The maintenance and organization of space
- The presence of vegetation
- Opportunities to wander and see further into the space

- Opportunities to socialize and recreate in the space

1. The Spaciousness of Space

Spacious spaces received higher preference. This can be seen in the characteristics of the most preferred scenes, which are comprised of spacious spaces or spacious common spaces and wide walkways. Similar results are derived from a comparison of preferred Typical Modern Malls against the less-preferred dimensions of modern malls, Modern Malls with Exposed Products. The common characteristics of the most preferred scenes and of the most preferred dimensions suggest the spaciousness of these spaces. In addition, respondents frequently made comments on spatial configuration. Positive comments on spatial configuration, such as spacious and wide space, are associated with the better-preferred environments. On the contrary, negative comments on spatial configuration, such as tight and closed space and narrow walkway, are associated with less-preferred environments. Spatial configuration is also related to perceived crowdedness. Spacious places are less likely to be perceived as crowded, while narrow and tight spaces are perceived as crowded, with a moderate number of people present.

2. The Maintenance and Organization of Space

The positive characteristics of the most preferred scenes and the most preferred dimension include cleanliness, and neat and well organized, represented by shiny floor, clear organization of elements and circulation, and neat product display. On the contrary, the negative characteristics of the least preferred scenes and dimension include disordered space and obtrusive elements. The better maintained and better-organized spaces of Typical Modern Malls make them more preferred than the poorly-organized Modern Malls with Exposed Products. Similarly, Traditional Fresh Markets are more preferred than Traditional Outdoor Markets due to their better maintained and better organized spaces.

The findings are supported by the most frequent comments from the respondents for each dimension. The better-preferred dimension of modern environments, Typical Modern Malls, is referred to as clean and neat and well-organized, while the less preferred Modern Malls with Exposed Products are mentioned as poorly-organized. Similarly, the better-preferred Traditional Fresh Markets are mentioned as neat and well-organized, while the less-preferred Traditional Outdoor Markets are mentioned as poorly organized and obtrusive.

3. The Presence of Vegetation

The presence of vegetation also influences preference. The most preferred scenes of both traditional and modern environments include various from of vegetation, such as plant pods and trees. In comparison, the presence of vegetation in the Outdoor Markets with Vegetation dimension makes them equally preferred with Traditional Fresh Markets, which are better organized, better displayed, and have similar spatial quality. This dimension is significantly better preferred than the Traditional Outdoor Markets dimension, which has similar negative characteristics and comments on maintenance and condition.

The presence of vegetation is highly recognizable to the respondents. The respondent perceives this dimension by the amount of vegetation, as opposed to other factors and characteristics such as traditional and modern outdoor markets. Both traditional and modern environments with higher amounts of vegetation are grouped together in this dimension. The influence of vegetation on preference is also supported by frequent comments from the respondents. Trees are frequently mentioned in comments on this dimension, along with positive comments on atmosphere such as calm, relax and shady, and natural and fresh.

4. Opportunities to Wander and See Further into the Space

Opportunities to wander around and see further into the space can be seen in the characteristics of most of the scenes in the most preferred scenes and the most preferred dimension, Typical Modern Malls. The spatial configuration of modern malls, particularly where the spaces are connected between walkways and common spaces, and where the common areas are widely open, deep, and vertically connected, allows shoppers to wander further into the spaces, and promises them more to see if they walk further into the scenes.

Opportunities to wander and see further into the space make Typical Modern Malls more preferred than Modern Malls with Exposed Products, where the spaces are tighter and closed. Other dimensions, especially traditional markets, are commonly comprised of narrow spaces and closed spaces; thus, they do not provide these opportunities. These dimensions, therefore, receive lower preference.

The opportunities to wander and see further are related to spaciousness of space. These opportunities cannot occur without the width, depth, and height of the space. However, only spacious space does not offer these opportunities. Spaciousness with certain configurations of

spaces and elements, such as bent paths, partially blocked views, and highlight at the end of the tunnel, provide the above opportunities.

5. Opportunities to Rest and Socialize in the Space

Opportunities to rest and socialize in the space are offered by the availability of sitting areas, open café, or restaurant. Provided furniture such as seats and benches in visible but defined spaces offers shoppers opportunities to rest and socialize. The presence of trees, and other elements that define spaces, encourage the desire to sit, rest, and socialize. The availability of foods and beverages in the space provide more reasons to drink, eat, rest, and socialize.

These opportunities are visible most frequently in the most preferred modern scenes and in the most preferred dimension, Typical Modern Malls. The spaces depicted are usually common areas, where parts of the cafés are visible and benches are provided on the walkways, giving the scenes and dimension high preference. These opportunities are also visible in Outdoor Markets with Vegetation. Together with vegetation, the available sitting areas make them more preferred than Traditional Outdoor Markets, where the other characteristics are similar.

Sitting areas are recognizable to the respondents. The most frequent positive comments on contents of the most preferred scenes and the two above dimensions include seats or sitting areas. They are accompanied by positive overall judgments such as likeness, and want to be there. However, availability is an important factor for opportunity. In scene 43, where sitting areas are crowded, and there do not seem to be enough seats, the respondents express their recognition by giving negative comments on seats.

2. Shopping Factor

Shopping factor is derived from the analysis of the relationships between preference dimensions and perceived importance of shopping attributes. The information is used to answer the following question.

Question 3: What are the relationships between perceived importance of shopping attributes of people for shopping environments and preferences for shopping environments?

In answering this question, findings from canonical correlation analysis conclude as follows. By relating the perceptions of the physical environments and the importance of various shopping attributes, meaningful relationships can be found. Within the context of existing shopping

environments and perceived importance of a variety of shopping attributes, two relationships are found: recreational shopping and value shopping.

1. Recreational Shopping

The first relationship between preference dimensions and shopping attribute dimensions is recreational shopping, which is characterized primarily by the perceived importance of entertainment facilities and recreational features of the shopping environment. In relation to the environments, Typical Modern Malls are perceived as highly related to recreational shopping, while Outdoor Markets with Vegetation are also perceived as moderately related to recreation, due to their characteristics that offer the possibilities to entertain and recreate.

2. Value Shopping

The second relationship between the preference and shopping attributes dimensions is value shopping. This relationship is characterized highly by price and moderately by sales and promotion activities. Value shopping is perceived as related to traditional markets, where a variety of low price products and sales activities occur in a perceived low quality spaces.

This finding confirms the previous finding on environmental characteristics influencing preference for shopping environments. Preferred physical characteristics such as vegetation, sitting areas, and other decorations that provide opportunities for socialization and recreation increase the perception of recreational shopping. On the contrary, the absence of these preferred characteristics in traditional markets results in the perception of value shopping.

3. Shoppers' Background Factors

Shoppers' background factors are derived from the analysis of the relationships between preference dimensions and respondent's backgrounds. The information is used to answer the following question.

Question 4: How do preferences differ by people's shopping behaviors and socio-economic backgrounds?

Shopping behaviors and socio-economic backgrounds influence preference for shopping environments by group shopping behaviors, family shopping responsibilities, socio-economic status, and traditional lifestyles. Parallel with the findings from previous analyses, recreational and value shopping were found to affect preference for shopping environments. The need for

recreational shopping influences preference for Typical Modern Malls and Outdoor Markets with Vegetation, where opportunities for recreation and socialization are offered. The need for value shopping influences preference for traditional shopping environments and Modern Malls with Exposed Products, where high-quality products are offered at lower prices. The differences between recreational and value shopping needs of the respondents vary by their shopping behaviors and socio-economic backgrounds.

1. Large group shopping behavior is related to the need for recreational shopping, while smaller group and family-oriented group shopping behavior results in the need for value and specific shopping.

2. Individual backgrounds, such as age, family membership, and employment status, indicate different levels of responsibility for necessary family shopping. These responsibilities affect different shopping needs. The more responsibilities that shoppers have, the higher the tendency for value shopping. On the contrary, less responsibility leads to more recreational shopping.

3. Household economic status influences responsibility and disposable income of the families. The more dependents and the less disposable income that shoppers have, the more tendencies for them to look for value shopping. On the contrary, shoppers with less dependents and more disposable income are more inclined to recreational shopping.

4. Age and social status (such as income and education) influence lifestyles and familiarity with environments. Older and lower social status shoppers tend to be more familiar with traditional lifestyles, including traditional style shopping and environments.

4. Important Factors of Developers, Designers, and Managers in Relation to Shoppers

Information about important factors and how shopping environments were developed, designed, and managed was gathered to answer the following question.

Question 5: What are the factors that developers, designers, and managers perceive as important in building, designing, and managing shopping environments, and how do these factors differ from those perceived by the shoppers?

Information from developers, designers, and managers, was also compared with information from the survey of shoppers. The findings are as follows:

1. Shopping environments were developed in a way that was rather strict to the standard. Developers, designers, and managers mostly valued business-related factors such as location, product mix, and experience in doing retail business and dealing with shopping environments. This also resulted in the standard practice of development and design, and the constant use of prototype in development and design of both modern and traditional environments.

2. Developers, designers, and managers recognized the importance of information about customers in the development and design of shopping environments. However, their understanding about shoppers' backgrounds and preference for shopping environments was incomplete and incorrect. They primarily judged customers' backgrounds on the income of shoppers, which was indicated by location. However, more background variables were found to significantly influence preference for each environment. Moreover, the belief that high-income shoppers like modern malls and low-income shoppers like traditional markets was contradicted by information from shoppers. Beside differences in magnitudes of preference for the Traditional Fresh Markets dimension between income groups, there was no difference between the preference patterns of shoppers with different household incomes. All groups preferred Typical Modern Malls the most and Traditional Outdoor Markets the least, while their preferences for other dimensions were in the middle.

3. Developers and designers seemed to know what shoppers want in terms of physical elements. Developers and designers of modern environments recognized that sitting areas, vegetation, and spaciousness are important characteristics of shopping malls, but they did not encourage recreation activities without buying. Similarly, developers, planners, and managers of traditional markets also know that order, maintenance, and spaciousness are positive aspect of the markets. Their recognitions tend to be based on general knowledge about the overall standard of these places rather than an understanding of shopper's preference.

4. Developers of modern environments provide important physical elements in terms of availability without recognizing how customers perceive them. Customers tend to perceive and prefer these elements as opportunities for them to wander, gain more information, rest, and socialize rather than as luxurious decorative elements. Developers see these important elements as luxurious decorative elements for the perceived level of customer income that can encourage sales.

5. Similar to developers, designers intended to design environments that look good and are suitable to the class of the shopping environment. They implement these elements with rather abstract and symbolic concepts, such as modern, futuristic, or nature exploration, rather than with opportunities for wandering further, resting, socializing, and recreating.

6. Developers and managers of traditional markets did not perceive the recreational aspect of shopping (such as the appearance and elements that encourage resting and socializing) as important in shopping environments. Planners or designers may recognize the importance of these characteristics; however, designers did not always design traditional shopping environments. Their services were limited to planning of units and circulations, and the minimal cost structures.

7. For traditional shopping environments, the developers and managers (especially of public markets) maintain the quality of space (e.g., cleanliness and orderliness) by enforcing rules that do not allow tenants to do anything beyond their rental units. Therefore, individual tenants cannot provide positive elements in the common areas. This can limit their senses of care and responsibility to the place. Moreover, if the maintenance and prevision of elements by the official are not sufficient, the tenants can contribute additional care and decoration.

The above misunderstanding about shoppers' backgrounds and preference for physical environments of developers, designers and managers, and the information from shoppers, provides the basis for making recommendations for future developments and improvements of existing shopping environments. Traditional markets are currently less preferred because of their negative conditions and because they have less to offer in terms of recreational shopping. If the developers, designers, and managers of traditional environments are better informed about shoppers' preferences, they can better address their customers' needs and can expand their client bases.