Solutions Manual

# Chapter 4: Product and Service Innovations

1.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Technical Requirements* | *Frame Material* | *Lens Material* | *Crush Proof Case* | *Assemble w/Screws* | *Polarizing Lenses* | *Your Company* |
| Customer requirements | Ratings |  |  |  |  |  |  |
| Aesthetics | 1 | ▲ |  |  |  |  | G |
| Reduce glare | 3 |  | ★ |  |  | ● | G |
| Adjustable | 5 | ● |  |  | ● |  | F |
| Take prescription lenses | 4 |  | ★ |  |  |  | G |
| Unbreakable | 2 | ★ | ● | ★ |  |  | P |
| Weight ratings |  | 26 | 41 | 10 | 15 | 9 |  |
| Target values |  | Carbon fiber | Glass | 500 psi min. | Phillips | Unified glare rating |  |

Cognitive Domain: Application

Difficulty Level: Hard

2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Technical Requirements* | *Base & Stem Material* | *Shade Material* | *Protects Bulb if Knocked Over by Rowdy Cats* | *Ease of Assembly* | *Ease of Cleaning* | *Your Company* |
| Customer requirements | Ratings |  |  |  |  |  |  |
| Aesthetics | 1 | ▲ |  |  |  |  | G |
| High lumens | 4 |  | ★ |  |  | ● | G |
| Easy-to-change bulb | 5 | ● |  |  | ● |  | F |
| Easy-to-change shades | 2 |  | ★ |  |  |  | G |
| Unbreakable | 3 | ★ | ● | ★ |  |  | P |
| Target values |  | Hardness scale diamond | Stain resistance | 500 psi min. | 5 min. or less | Stain resistant |  |

Cognitive Domain: Application

Difficulty Level: Hard

3.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Technical Requirements* | *Boeing 737* | *Flight Crew* | *Ground Support* | *Snacks* | *Website* | *Your Company* |
| Customer requirements | Ratings |  |  |  |  |  |  |
| On-time arrival | 2 | ▲ | ★ | ★ |  |  | G |
| Low cost | 1 | ● | ● | ● | ● | ★ | G |
| Peanuts | 4 |  |  |  | ★ |  | F |
| Fun attendants | 5 |  | ★ |  |  |  | G |
| Clean planes | 3 |  |  | ★ | ▲ |  | G |
| Weight ratings |  | 5 | 38 | 28 | 26 | 5 |  |
| Target values |  | 30-year max age | Internal score | Clean & fuel in 30 minutes | Free | 1-sec. load |  |

Cognitive Domain: Application

Difficulty Level: Hard

4.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *Capacity* | *Energy* | *Shelves* | *Cooling Systems* | *Body Material* | *Ice & Water* | *Your Company* | *Maytag* | Whirlpool | GE | Frigidaire |
| Low price | 6 | ● | ● |  | ★ | ▲ | ● | G | F | F | P | G |
| Low energy consumption | 7 |  | ★ |  | ● | ● |  | G | G | G | G | F |
| Quite operation | 9 | ● |  |  | ● |  |  | F | G | G | G | F |
| Maintains food freshness | 10 |  |  |  | ▲ |  |  | P | G | G | F | P |
| Maintains temperature | 8 |  | ● |  | ★ |  |  | G | G | G | F | F |
| Dispenses purified water | 3 |  | ● |  |  |  | ★ | P | F | G | G | P |
| Storage flexibility | 4 | ★ |  |  |  |  |  | F | F | F | G | P |
| Easy to clean | 2 |  |  | ● |  | ▲ |  | F | F | F | F | F |
| Matches kitchen décor | 1 |  |  |  |  | ● |  | P | F | G | G | P |
| Maximizes storage space | 5 | ▲ |  | ★ |  |  | ▲ | F | F | G | P | F |
| Weighted ratings | 70 | 86 | 31 | 128 | 32 | 38 | 70 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Target values |  | 28 cu. ft. | Energy Star | Adjustable | Dual fan | Steel | Filter |  |  |  |  |  |
| Technical evaluation | Your company | 28 | Yes | No | No | Yes | No |  |  |  |  |  |
| Maytag | 30 | Yes | Yes | Yes | Yes | No | Fair |  |  |  |  |
| Whirlpool | 30 | Yes | Yes | Yes | Yes | Yes | Good |  |  |  |  |
| GE | 32 | Yes | Yes | Yes | Yes | Yes | Good |  |  |  |  |
| Frigidaire | 25 | Yes | No | No | Yes | No | Poor |  |  |  |  |

Cognitive Domain: Application

Difficulty Level: Hard

5. The Greeks laid siege to Troy for a decade before conceiving and deploying the Trojan horse. They hid inside the gift and at night spilled out and slaughtered their enemies. Trojan condoms are designed to prevent pregnancy and disease by not spilling their contents, yet the *Trojan* name brings this historical event to mind. Always maxipads are used during menses, but most would agree that *always* is a word no one wants to associate with menstrual flow. The Chevrolet Nova model translates to *doesn’t go* in Spanish.

Cognitive Domain: Application

Difficulty Level: Hard

6. Examples will vary. Value engineering can be used to ensure that a washing machine provides value customers want by using less expensive materials in construction without sacrificing strength. The tub size can be modified to optimize the use of water based on the average household’s weekly laundry needs. The design engineers can examine the tradeoff between energy consumed during agitation and the amount of laundry detergent required to make the whitest whites and most vibrant colors for permanent-press fabrics.

Cognitive Domain: Application

Difficulty Level: Hard

7. The typical most recognized logos are Nike, Coca-Cola, Ford, Apple, Pepsi, McDonald’s, Mercedes, Google, Levi’s, and Burger King. With the except ion of Google, these companies have all been around for at least 40 years, they do a great deal of advertising, and their products are ubiquitous.

Cognitive Domain: Knowledge

Difficulty Level: Easy

8. Groupon, Wal-Mart, Fosters, Home Depot, and many other brands have failed in other countries. The most common reason for failure is the lack of understanding of the foreign culture—what consumers value and their typical purchasing and consuming habits.

Cognitive Domain: Analysis

Difficulty Level: Medium

9. Companies should make sure that their business is on a solid foundation in their home country, so an internal assessment and realistic projections of the current competitive arena are in order. Companies should also understand the local culture—its appetite for the product and how the sales process works. Companies should also assess the local competition in their target country and determine whether the local talent has the necessary skills to deliver promises made by the marketing department.

Cognitive Domain: Application

Difficulty Level: Medium

10. The authors note that product lifecycle stages are becoming shorter. As mobile and smartphones increase storage and computing capacity and bandwidth increases, they will supplant many common products. Mobile payment apps are increasingly common; the most common barrier to their use is the hardware in use at many retail locations.

Cognitive Domain: Application

Difficulty Level: Medium

11. The breakfast burrito will fail within 1 year. Customers do not associate an American hamburger restaurant with ethnic food items like burritos. No other menu item uses a tortilla, so there is little incentive to continue ordering and stocking a component that is used in only one unpopular menu item.

Cognitive Domain: Analysis

Difficulty Level: Medium

12. All of these elements would be important. It is safe to say that a combat zone communications device a) must be repaired easily in the event it does break, b) needs to be extremely reliable, c) is subjected to some extremely rough use, and d) is used over a wide variety of operating environments. Modular design, design for reliability, and robust product design all address these concerns.

Cognitive Domain: Analysis

Difficulty Level: Medium