Case 2–3: The Levi's Personal Pair Proposal

WISCONSIN
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The Levi's Personal Pair Proposal[1]

"I'll have my recommendation to you by the end of the week." Heidi Green hung up the phone and surveyed her calendar for appointments that could be pushed into the next week. It was a rainy afternoon in December 1994, and she had yet to recover from the pre-holiday rush to get product out to retailers.

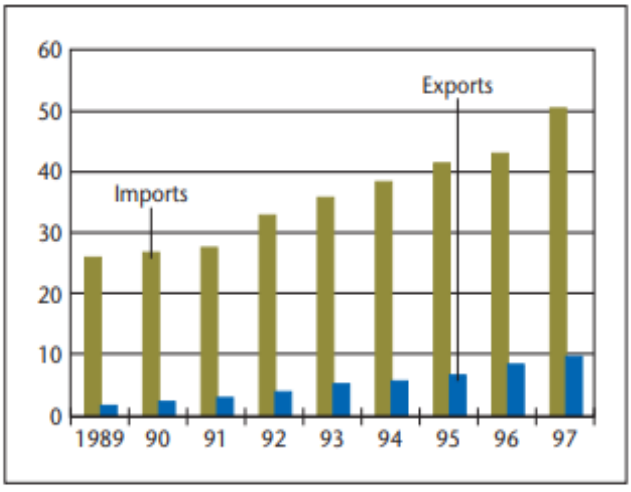
She had three days to prepare a presentation for the Executive Committee on a new concept called Personal Pair. Custom Clothing Technology Corporation (CCTC) had approached Levi Strauss with the joint venture proposal that would marry Levi's core products with the emerging technologies of mass customization. Jeans could be customized in style and fit to meet each customer's unique needs and taste. If CCTC was correct, this would reach the higher end of the jeans market, yielding stronger profit margins due to both the price premium and the streamlined production process involved.

On the other hand, the technology was new to Levi Strauss and the idea could turn out to be an expensive and time-consuming proposal that would come back later to haunt her, as she would have to manage the venture. The initial market studies seemed supportive, but there was no way to know how customers would respond to the program because there was nothing quite like it out there. She also was unsure whether the program would work as smoothly in practice as the plan suggested.

Company Background and History

Levi Strauss and Co. is a privately held company owned by the family of its founder, Levi Strauss. The Bavarian immigrant was the creator of durable work pants from cloth used for ships' sails, which were reinforced with his patented rivets. The now-famous "waist-overalls," were originally created more than 130 years ago for use by California gold rush workers. These were later seen as utilitarian farm- or factory-wear. By the 1950's, Levi's jeans had acquired a Hollywood cachet, as the likes of Marilyn Monroe, James Dean, Marlon Brando, Elvis, and Bob Dylan proudly wore them, giving off an air of rebellious hipness. The jeans would become a political statement and an American icon, as all jeans soon became known generically as "Levi's." The baby boomer generation next adopted the jeans as a fashion statement, and from 1964–1975, the company's annual sales grew tenfold, from $100 million to $1 billion.[2] By the late 70's, Levi's had become synonymous with the terms "authentic," "genuine," "original," and "real," and wearing them allowed the wearer to make a statement. According to some who recognize the brand's recognition even over that of Coke, Marlboro, Nike or Microsoft, "Levi Strauss has been, and remains, both the largest brand-apparel company in the world and the number one purveyor of blue jeans in the world."

While blue jeans remained the company's mainstay, the San Francisco-based company also sold pants made of corduroy, twill, and various other fabrics, as well as shorts, skirts, jackets, and outerwear. The company, with its highly recognizable brand name, held a top position in many of its markets and was sold in more than 80 countries. More than half of the company's revenue was from its U.S. sales; nevertheless, Europe and Asia were highly profitable markets. Latin America and Canada were secondary markets, with smaller contributions to overall profits. As the graphic (below) shows, apparel imports were increasing faster than exports during this period.



Import and Exports of Apparel (in billions of dollars)

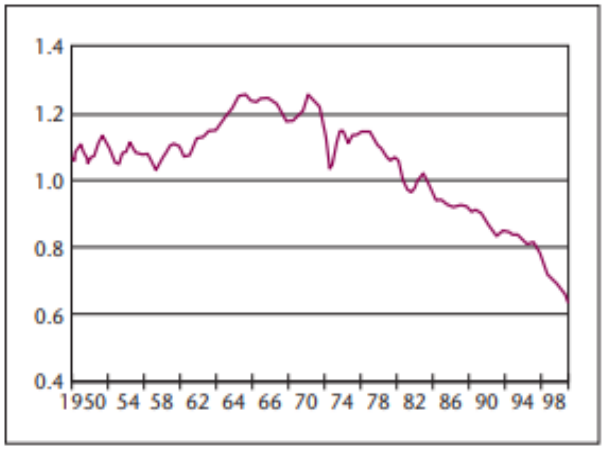
Source: U.S. Department of Commerce.

The company's non-denim brand, Dockers, was introduced in 1986 and was sold in the United States, Canada, Mexico, and Europe. While it was composed of both women's and men's clothing, the men's line of khaki pants occupied the leading position in U.S. sales of khaki trousers and sold well with baby boomers. Sales of Dockers had steadily increased with the rise in casual workplaces, and this line of non-denim products had helped in allowing Levi's to be less reliant on the denim industry.

Competition and the Denim Industry

Denim was "one of the fastest-growing apparel fabrics," and sales have been increasing approximately 10% per year. According to some surveys, an average American consumer owns 17 denim items, which includes 6–7 pairs of jeans.[3] Levi Strauss and Company held the largest market share in 1990, at 31%, followed by VF Corporation's Lee and Wrangler (17.9%), designer labels (6%), The Gap (3%), and department store private labels (3.2%). By 1995, women's jeans had grown to a $2 billion market, of which Levi's held first place.

However, at the same time, many jeans producers were starting to move production to low-cost overseas facilities, which allowed for cost (especially labor) advantages. As the graph (below) shows, this trend was represented throughout the apparel industry and is clearly visible in employment statistics. Indeed, JC Penney, one of Levi's long-time partners, had become a competitor by introducing a cheaper alternative, the Arizona label. They and other rivals had realized that by sourcing all production in cheap overseas facilities they could enter the business with a cost advantage over Levi Strauss.



U.S. Apparel Industry Employment (production workers, in millions)

Source: Bureau of Labor Statistics.

Levi's as a private company, which viewed itself as having a strong "social conscience," wanted to avoid being seen as exploiting disadvantaged workers. Accordingly, they preferred to have their jeans "U.S.-made," and Levi Strauss was a leader in providing generous salary and benefits packages to its employees.

Accordingly, it did not relish the notion of entering into price-based competition with rivals committed to overseas production. Their delayed response led to some significant incursions by rivals into Levi's core product arenas.

Levi's also wanted to avoid price-based competition because they had a history of brand recognition and brand loyalty. They were accustomed to the Levi's brand carrying enough clout to justify a reasonable price premium. However, over the years, the brand name carried less cachet, and as hundreds of competitors with similar products dotted the landscape, it became necessary to create valued features that would help to differentiate the product in the eyes of consumers.

Levi Strauss' financial performance is summarized in Exhibit 1 for the period from 1990–1994. While the company was profitable throughout the period, revenue growth had clearly slowed and income growth was quite uneven. This is especially apparent for 1994, the current year, where net income dropped by 35% due to fierce competition for market share and narrowing margins.

Cost Structure

Exhibit 2 provides an estimate of the cost and margins on an average pair of jeans sold through Levi's two outlets. Much of their product is sold through wholesale channels, to be distributed by competing retailers. However, Levi's maintains a chain of Original Levi's Stores (OLS) primarily to help keep them closer to the customer. The profit per pair of jeans is about 30% lower in the wholesale channel ($2 as opposed to $3). This is driven by the 30% margin that accrues to the channel, and which is somewhat balanced by the higher costs of operating the OLS outlets (especially the additional SG&A costs for operating the stores).

Exhibit 2 also indicates the ongoing investment per pair of jeans. Once this is considered, the wholesale outlets are nearly twice as profitable—the pre-tax return on invested capital is 15%, as opposed to 8%. Here, the OLS outlets require additional investment in inventory ($8/pair), which is normally borne by the retailer, and the capital tied up in the retail stores ($20/pair).

Exhibit 1 Levi Strauss Financial Performance

	1994	1993	1992	1991	1990
Income Statement					
Net Sales	$6,074,321	$5,892,479	$5,570,290	$4,902,882	$4,247,150
Cost of Goods	$3,632,406	$3,638,152	$3,431,469	$3,024,330	$2,651,338
Gross Profit	$2,441,915	$2,254,327	$2,138,821	$1,878,552	$1,595,812
Selling G&A Exp	$1,472,786	$1,394,170	$1,309,352	$1,147,465	$922,785
Non Operating Income	−$18,410	$8,300	−$142,045	$31,650	−$36,403
Interest Exp	$19,824	$37,144	$53,303	$71,384	$82,956
Income Before Taxes	$930,895	$831,313	$634,121	$691,353	$553,668
Taxes	$373,402	$338,902	$271,673	$324,812	$288,753
Net Inc Before Ext Items	$557,493	$492,411	$362,448	$366,541	$264,915
Ext Items	−$236,517	$0	−$1,611	−$9,875	−$13,746
Net Income	$320,976	$492,411	$360,837	$356,666	$251,169
Growth					
Sales Growth	3.1%	5.8%	13.6%	15.4%	
Net Income Growth	−34.8%	36.5%	1.2%	42.0%	
Key Financial Ratios					
Quick Ratio	1.57	1.03	0.76	0.87	0.73
SG&A/Sales	24.25	23.66	23.51	23.4	21.73
Receivables Turnover	6.68	6.87	7.67	7.31	6.88
Inventories Turnover	7.76	7.44	7.64	7.5	7.29
Total Debt/Equity	2.57	10.57	34.39	71.82	22.21
Net Inc/Sales	5.28	8.36	6.48	7.27	5.91
Net Inc/Total assets	8.18	15.84	12.53	13.54	10.51

Mass Customization

Mass customization uses emerging communication and computer technologies to bypass the limitations of traditional mass production methods. From a strategic standpoint, the concept is based on the idea that "the ultimate niche is a market of one."[4] Previously, it was thought that highly-customized products were necessarily expensive to produce; however, with the advent of various information technologies, meeting the customer's needs for flexibility and greater choice in the marketplace is becoming more and more economical.

> *"A silent revolution is stirring in the way things are made and services are delivered. Companies with millions of customers are starting to build products designed just for you. You can, of course, buy a Dell computer assembled to your exact specifications… But you can also buy pills with the exact blend of vitamins, minerals, and herbs that you like, glasses molded to fit your face precisely, CD's with music tracks that you choose, cosmetics mixed to match your skin tone, textbooks whose chapters are picked out by your professor, a loan structured to meet your financial profile, or a night at a hotel where everyone knows your favorite wine. And if your child does not like any of Mattel's 125 different Barbie dolls, she will soon be able to design her own."*[5]

There is, of course, a delicate balance between providing consumers enough flexibility to meet their needs without so much that the decision-making process becomes perplexing and the company's costs spiral out of control trying to meet the customers' phantom needs.

In the early 90's, Levi Strauss found itself facing a dual set of competitors. There were the low-cost, high-volume producers with a distinct advantage over Levi's, and there were also the higher-cost producers of jeans that targeted the affluent end of the denim-buying public. As a high-volume producer with a cost disadvantage, Levi's increasingly found itself at a disadvantage in both the upper and lower ends of the apparel market.

Personal Pair Proposal

Proponents of the Personal Pair project envisioned a niche that would allow Levi's to avoid competing against the low-cost high-volume producers. Market research revealed that only a quarter of women were truly happy with the fit of their jeans, and the company hoped to attract higher-income customers who would be willing to pay a little extra for a perfect fit.

Exhibit 2 Profitability Analysis of Women's Jeans

	Wholesale Channel	Original Levi's Store Channel	Personal Pair?	Notes
Operations, per pair				
Gross Revenue	$35	$50		$50 retail price with a 30% channel margin.
Less Markdowns	(3)	(5)		Avg. channel markdowns of $5; 60% born by mfg.
Net Revenue	32	45		
Costs				
Cotton	5	5		
Mfg. Conversion	7	7		High labor content since all jeans hand-sewn.
Distribution	9	11		Wholly-owned distribution network for OLS channel. Add $2 for warehouse to store.
Total	21	23		
COGS				
Gross Margin	11	22		
SG&A	9[1]	19[2]		
Profit Before	$2	$3		
Tax				
Investment, per pair				
Inventory	$4	$12		77 days for Levi's wholesale channel & 240 days for OLS stores to include retail inventory.
Less A/P	(1)	(1)		Reflects 27 days of Accounts Payable.
Accounts	4	0		51-day collection period for wholesale. Retail customers pay immediately.
Receivable				
Net Working Capital	7	11		
Factory PP&E	5	5		Reflects a sales to fixed asset turnover of 5.33.
Distribution PP&E	1	2		Doubled for OLS channel due to additional retail distribution investment (estimate).
Retail Store	0	20		$2.4M/OLS store for 120,000 pairs sold/yr (est.).
Total Investment	$13	$38		
Pre-tax return on invested capital	15%	8%		

[1] At $9, a little higher than Levi's overall 25% SG&A due to supply chain problems with women's jeans.
[2] The additional $10 reflects an average 22% store expense for retail clothiers (Compact Disclosure database).

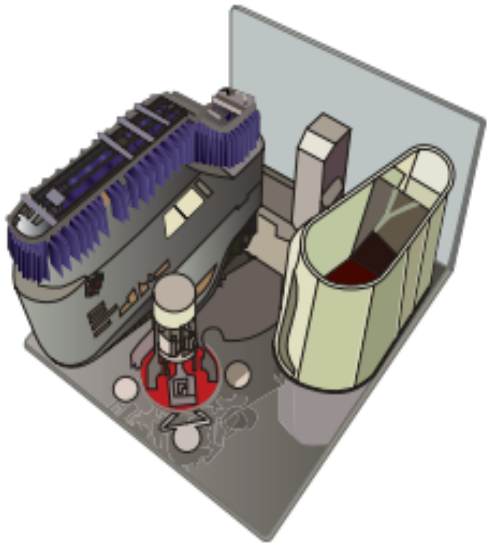
Source: Adapted from Carr, 1998.

In addition, a mass customization model could lower costs as well as provide the differentiation advantage since the re-engineered process is often more efficient once new technologies are applied. For example, the mass customization model, which operates on the "pull-driven" approach of having the customer drive the production process, would lower distribution costs and inventories of unsold products.

Personal Pair was a jeans customization program made possible through a joint venture with Custom Clothing Technology Corporation (CCTC), in Newton, Massachusetts. CCTC approached Levi Strauss, described the potential of its technology and suggested that, together, the two companies could enter the mass customization arena.

The Personal Pair proposal reflected a form of collaborative customization. This approach helps customers who find the array of choices in the marketplace overwhelming, to narrow down their specific needs. The company enters into a dialogue with customers to help them understand what they need, and is then able to provide specialized products that meet that specific need. Collaborative customizers are able to keep inventories of finished products at a minimum, which brings new products to market faster. That is, they manufacture products in a "just-in-time" fashion to respond to specific customer requests.

How It Would Work. Original Levi's Stores (OLS) would be equipped with networked PC's and Personal Pair kiosks. Trained sales clerks would measure customers' waist, hips, rise, and inseam, resulting in one of 4,224 possible size combinations—a dramatic increase over the 40 combinations



normally available to customers. The computer would then generate a code number that corresponded to one of 400 prototype pairs of jeans kept in the kiosk. Within three tries, more measurements would be taken and a perfect fit would be obtained; the customer would then pay for the jeans and opt for Federal Express delivery ($5 extra) or store pickup, with a full money-back guarantee on every pair.

The order was then sent to CCTC in Boston via a Lotus Notes computer program. This program would "translate" the order and match it with a pre-existing pattern at the Tennessee manufacturing facility. The correct pattern would be pulled, "read," and transferred to the cut station, where each pair was cut individually. A sewing line composed of eight flexible team members would process the order, it would be sent to be laundered, and would be inspected and packed for shipping. A bar code would be sewn into each pair to simplify reordering details, and the customer would have a custom-fit pair within three weeks.

Once the program was underway, the proposal suggested that about half of the orders would be from existing customers. Reordering would be simplified and encouraged by the bar code sewn into each pair. In addition, reorders could be handled through a web-based interface.

Pricing. There was some question about how much of a price premium the new product would command. The proposal called for a $15 premium (over the standard $50/pair off the rack) and focus groups suggested that women, in particular, would consider this a fair price to pay for superior fit. However, other's argued that this price point was a bit optimistic, suggesting that $5 or $10 might be more realistic given the lower-priced alternatives.

Planned Scope. The initial proposal was to equip four Original Levi's Stores (OLS) with Personal Pair kiosks and specialized PC's. Once the systems were worked out, this would be expanded to more than 60 kiosks across the U.S. and Canada. In addition, they envisioned opening kiosks in London where they estimated that the product would command a premium of £19 over the original £46 price for standard jeans. The jeans would still be produced in Tennessee and shipped via Federal Express.

Cost Impact. Although the new process would require some investments in technology and process changes, many other costs were projected to drop. These are illustrated by the complex supply chain for the OLS channel (Exhibit 3) and the relatively simple supply chain for the proposed Personal Pair program (Exhibit 4).

- The most obvious ongoing cost savings would be in distribution. Here, the order is transmitted electronically and the final product is shipped directly to the customer at his/her expense. These costs would be nearly eliminated in the proposed program.
- Manufacturing and raw materials would not change much since all jeans are hand sewn and would use the same materials for the traditional and mass-customized processes.
- The portion of SG&A expenses attributable to retail operations ($10/pair in Exhibit 2) would be reduced if 50% of the sales are reorders that do not incur incremental costs in the retail stores ($5/pair savings). However, CCTC would incur its own SG&A costs that would have to be considered (about $3/pair).
- Finally, no price adjustments would be needed in such a tight channel since there would be no inventory of finished product. In the retail channel, about $\frac{1}{3}$ of jeans are sold at a discount to clear out aging stock (the discounts average 30%).[6]

Investment Impact. While the factory PP&E was not projected to change much (they would continue to use the same facilities), a number of other factors would impact the invested capital tied up in a pair of jeans (both positively and negatively) under the proposed program:

Increases in invested capital:

- First, there would be an initial $3 million required to integrate the systems of CCTC with Levi's existing systems. This was relatively small since it was a matter of integrating existing systems in the two companies.
- CCTC would also require additional IT investments estimated at $10/pair to maintain the system and upgrade it regularly as scale requirements increased.

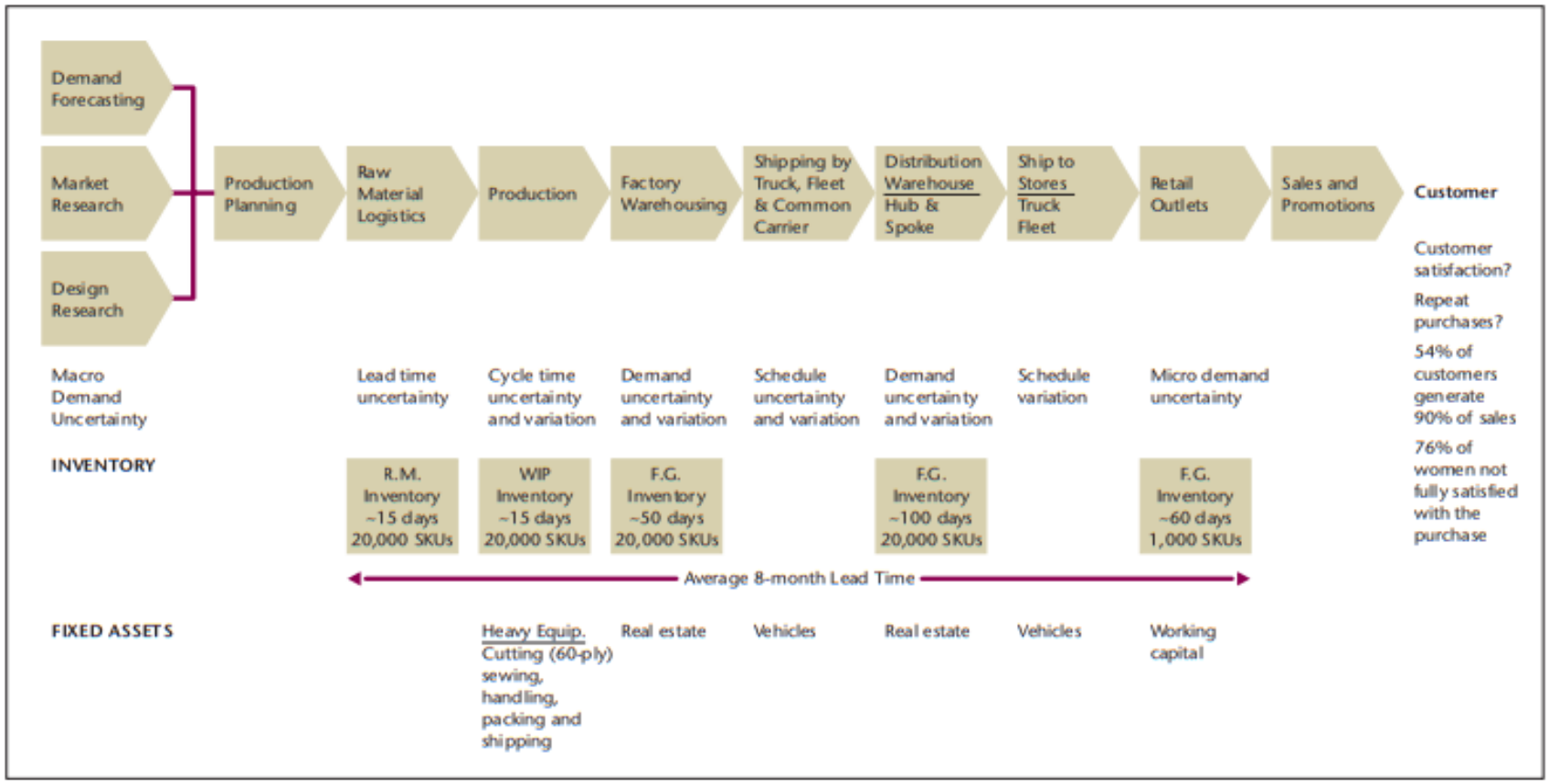
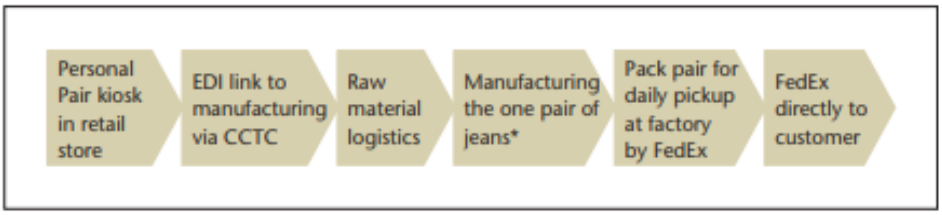


Exhibit 3 Traditional Original Levi's Store Supply Chain

Source: Adapted from Carr, 1998.

Exhibit 4 Personal Pair Value Chain

*Although this approach changes cutting from 60-ply to one, it does not otherwise change manufacturing since jeans were, and are, sewn one pair at a time.



- In addition, the kiosks would take up about 1/3 of the space in the OLS retail stores (about $7/pair for retail space).

Decreases in invested capital:

- The required inventory was significantly lower under the proposed program. Recent estimates calculated Levi's average inventory at about 8 months.[7] In contrast, the Personal Pair program called for no inventory of finished product and only a small inventory of raw materials (about $1/pair).
- Finally, the proposal suggested that accounts receivable would lead to a net gain of about $2/pair since customers would have paid about 3 weeks prior to receiving the product (similar to the Amazon.com model).

Integrating Elements of Mass Customization at Levi Strauss. In order for a company to transform an existing product into one that is cost-efficient to mass produce, certain product modifications must be made. The Personal Pair proposal incorporated several of the key elements suggested as helpful for implementing successful mass-customization programs.[8]

First, it is important to introduce the differentiating component of the product (that which must be customized) as late in the production process as possible. For example, paint is not mixed by the manufacturer, but at the point of sale, after being demanded by individual customers. Unfortunately, the making of personalized jeans would not lend itself to a differentiating component late in the production process. Therefore, in this case, the customizing would have to take place at the beginning of the process.

Then, it is helpful if either the product or the process of manufacturing can be easily separated into production modules. Steps in the process can then be reassembled in a different order. For example, a sweater manufacturer might wait until the last possible moment to dye its products in different colors for each season, instead of dying the wool first and knitting the sweaters. This allows for much more flexibility and helps the manufacturer to keep up with fast moving fashion trends. The Personal Pair proposal suggested that the manufacturing process would be modified to allow for better flow—specifically teams would be used to allow for more flexibility and handling of custom products. Unfortunately, since elements in the jean manufacturing process do not always come together in the same way, it would be important that employees accumulate a large range of skills to accommodate idiosyncratic problems that cannot be anticipated.

Finally, it is helpful if either the products or the subprocesses in the manufacturing chain are standardized. This allows for more efficient production and inventory management, whether it be for different types of domestic uses or different markets (for example, international as well as domestic markets were served by a printer manufacturer that allowed all its printers to be adjusted for both 110/220-volt usage). Here, the Personal Pair proposal called for a complex computer program with computerized patterns that were then beamed directly to the cutting floor. This would help them to integrate some technology-enhanced sub-processes with existing standard labor-intensive manufacturing methods.

It also goes without saying that all the parts of the new mass customization process need to come together in an "instantaneous, costless, seamless and frictionless manner."[9]

The Decision

As Heidi leaned back and gazed outside at the rain-soaked plaza, she considered the pros and cons to the proposal. The proposal carried several risks that she could not fully quantify. First, there was the ability of Levi Strauss to implement new technologies. Second, the cost savings in the proposal were based on CCTC's estimates in their proposal for the program. Would the program still be successful if the costs turned out to be very different? Third, market research indicated that women were not satisfied about fit. How much would they be willing to pay for a better fit?

On another level, she wondered about the competition. If the program were successful, would their low-cost rivals dive into this market as well? Did Levi's have any advantage here? What if they did not move forward with the proposal? Would one of their rivals partner with CCTC?