

## Case Setting

In mid-September of 2010, Emily Harris, vice president of Doll Company's production division, was weighing project proposals for the company's upcoming capital budgeting meetings in October. Two proposals stood out based on their potential to strengthen the division's innovative product lines and drive future growth. However, due to constraints on financial and managerial resources, Harris knew it was possible that the firm's capital budgeting committee would decline to approve both projects. She also knew that company's licensing and retail divisions would promote compelling projects of their own. Consequently, Harris had to be prepared to recommend one of her projects over the other.

### **The Doll Industry**

Revenues in the U.S. toy and game industry totaled \$42 billion in 2008 and were projected to increase by 4.6% per year to \$52.5 billion by 2013. The market was divided into two broad segments: video games (48%) and traditional toys and games (52%). The second segment was further divided into infant/preschool toys (14.5%), dolls (14.1%), outdoor & sports toys (12.3%), and other toys & games (59.1%) including arts and crafts, plush toys, action figures, vehicles, and youth electronics. The U.S. market for toys and games was dominated by large global enterprises that enjoyed economies of scale in design, production, and distribution. Revenues were highly seasonal; the largest selling season in the United States coincided with the winter holiday period.

Within the toy and game segment, U.S. retail sales of dolls totaled \$3.1 billion in 2008 and were projected to grow by 3% per year to \$3.6 billion by 2013. The doll category included large, soft, and mini dolls, as well as doll clothing and other accessories. The phenomenon of "age compression"—the tendency of younger children to acquire dolls that had traditionally been designed for older girls—reduced growth in the "baby-doll" sub-segment. Competition among doll producers was vigorous, as a small number of large producers targeted similar demographics and marketed their dolls through the same media. Lasting franchise value for a branded line of dolls was rare; the enormous success of *Barbie*® dolls was an obvious exception. More recently and on a much smaller scale, company also had created a durable franchise for its line of heirloom dolls. But the popularity of most doll lines waned after a few years.

### **Dolls**

The Doll Company was founded in 1985 by Ingrid Beckwith, a retired psychologist specializing in child development and the grandmother of two young girls. Dr. Beckwith believed the dolls produced by the major toy companies did little to develop girls' imagination or foster a positive self-image, so she created a line of dolls with unique storylines and wholesome themes. Dr. Beckwith's dolls struck a chord among mothers and grandmothers

who also rejected the dated, clichéd images portrayed by the popular dolls of the day.

By 2009, company had grown to 450 employees and generated approximately \$245 million of revenue<sup>1</sup> and \$27 million of operating profit from three divisions: production, retailing, and licensing. The production division, discussed further below, designed and produced dolls and doll accessories. The retailing division offered a unique “intergenerational experience” for grandmothers, mothers, and daughters, centered upon the character histories and storylines of the company’s dolls and delivered through an online website (42%), a mail-order paper catalog (33%), and a network of retail stores (25%). In fiscal 2009, the retailing division generated roughly \$190 million of revenue and \$4.8 million of operating profit. The licensing division was started in 1998, and represented the company’s newest and most profitable division. It sought to extend the brand and capitalize on high levels of customer loyalty by selectively licensing the company’s doll characters and themes to a variety of media that reached the firm’s target demographic of toddler to pre-teen girls. In fiscal year 2009 the licensing division generated \$24.5 million of revenue and \$14.5 million in operating profit.

#### **Company’s Production Division**

Production was company’s largest division as measured by total assets, and easily its most asset-intensive. Approximately 75% of the division’s sales were made to the company’s retailing division, with the remaining 25% comprising private label goods manufactured for other firms.

Company’s dolls and accessories were offered under distinct brands with different price points, targeting girls between the ages of 3 and 12 years. The company’s baby dolls were generally priced from \$15–\$30, and were offered to younger girls in earlier stages of development. These dolls typically came with a “birth certificate” and a short personal history. Dolls in the higher-end of this category incorporated technology that produced a limited amount of speech and motion. For the \$75–\$150 price range, company produced a line of heirloom-quality dolls and accessories. These were designed to appeal to older girls and to convey a sense of cultural and family tradition among grandmothers, mothers, and daughters. The heirloom dolls had more elaborate accessories and personal histories. Finally, the company offered a line of high-end dolls based on fictional “celebrities,” each associated with a charitable cause and embracing more contemporary fashion trends. These dolls targeted girls in the so-called “tween” age range of 8–12 years, and also were priced from \$75–\$150. Like the heirloom dolls, celebrity dolls also came with more elaborate stories and accessories.

Company outsourced much of its production to a select number of contract manufacturers in Asia. To ensure product quality and safety, the company maintained a fulltime staff to oversee material sourcing, production, and quality control on site at each of its manufacturing partners.

Manufacturing activities that required precise tolerances or proprietary processes, along with all the creative elements (design and product prototyping, for example), were handled in-house at the company's headquarters facilities in Sacramento, California.

### **Capital Budgeting**

Company's capital budgeting process retained some of the informality that characterized the company's early years as an innovative startup. As the company grew, deliberate steps were taken to decentralize some of the project approval process and increase spending authority at the division level. However, large and/or strategic spending proposals were reviewed at the corporate level by a capital budgeting committee consisting of the CEO, CFO, COO, the controller, and the division presidents. The committee examined projects for consistency with Company's business strategy and sought to balance the needs and priorities of each division against practical financial and organizational constraints. The committee also sought to understand project interdependencies and the potential for a given investment to strengthen the whole company, not solely the division proposing it.

Company's capital budget was set by the board of directors in consultation with top officers, who in turn sought input from each of the divisions. The capital and operating budgets were linked; historically, the capital budget comprised approximately 15% of the company's EBITDA. The committee had limited discretion to expand or contract the budget, according to its view of the quality of the investment opportunities, competitive dynamics, and general industry conditions.

Before being considered by the committee, projects were described, analyzed, and summarized in self-contained proposal documents prepared by each division. These contained business descriptions, at least five years of operating and cash flow forecasts, spending requirements by asset category, personnel requirements, calculations of standard investment metrics, and identification of key project risks and milestones.

### *Financial Analyses*

Financial analysis began with operating forecasts developed with oversight from operating managers. Revenue projections were derived from forecasts of future prices and volumes. Fixed and variable costs were estimated separately, by expense category. Forecasts of working capital requirements were likewise vetted by line managers, who paid particular attention to a project's requirements for various types of inventory. Forecasts for fixed assets and related depreciation charges were developed in cooperation with analysts reporting to the controller. Operating projections for a given project were used to develop cash flow forecasts that would underpin calculations of net present value (NPV), internal rates of return (IRR), payback period, and other investment metrics. Cash flow forecasts were intended to capture the incremental effect of a proposed project on the firm's cash flow for each year within the

forecast period. That is, each project's cash flow forecasts excluded non-cash items, such as depreciation charges, and non-incremental items such as sunk costs (i.e., costs that would be incurred regardless of whether a given project was undertaken or not). The cash flow forecasts were computed on an after-corporate-tax basis, but excluded all financing charges. Some elements of the cash flow forecasts were prepared with assistance from treasury analysts, but most of the necessary adjustments were well understood by division staff.

Company assigned discount rates to projects according to a subjective assessment of each project's risk. High-, medium-, and low-risk categories for each division were associated with a corresponding discount rate set by the capital budgeting committee in consultation with the corporate treasurer. Assessments of each project's risk were made at the division level, but subject to review by the capital committee. Factors considered in the assessment of a project's risk included, for example, whether it required new consumer acceptance or new technology, high levels of fixed costs and hence high breakeven production volumes, the sensitivity of price or volume to macroeconomic recession, the anticipated degree of price competition, and so forth. In 2010, "medium"-risk projects in the production division received a discount rate of 8.4%. High- and low-risk projects were assessed at 9.0% and 7.7%, respectively.

Projects that created value indefinitely, given continuing investment, were treated as going concerns with a perpetual life. That is, NPV calculations included a terminal value computed as the value of a perpetuity growing at a constant rate. However, to preserve an element of conservatism, the capital committee generally insisted on relatively low perpetual growth rates – lower than company e's historical growth and lower than near-term growth forecasts for a given division.

### **Investment Opportunities in the Production Division**

Emily Harris was focused on two of the production division's most attractive current proposals. The first involved expanding the successful *Doll Clothing Line* to include matching all-season clothing for tween girls and their favorite dolls. The second involved a new initiative, the *Design Doll*, which employed web-based doll-design software to let users "customize" a doll's features to the customer's specifications.

#### *Doll Clothing Expansion*

The *Doll Clothing* originally consisted of a few sets of matching doll and child clothing and accessories for warm weather. It quickly became successful after the daughters of a few celebrities were spotted and photographed wearing items from the line, and girls' magazines included some of the line in "what's hot to wear" sections. Given recent publicity, Marcy McAdams, the brand manager responsible for the line, believed the timing was perfect to expand. Specifically, McAdams proposed to create an "All Seasons Collection" of apparel and gear covering all four seasons of the year. She expected the new offerings to be at least as

profitable as the existing line, since its current popularity would make it possible to maintain premium prices. She also hoped to take advantage of off-peak discounts offered by some suppliers and contract manufacturers as they tried to smooth their capacity utilization. In the same fashion, McAdams argued the expansion would help reduce, or at least not exacerbate, the seasonality in company's sales and earnings.

To exploit the current popularity of the original *Doll Clothing*, especially given the fickle nature of children's fashion trends, McAdams believed the opportunity had to be exploited without delay. Her investment proposal contained relatively large outlays for R&D, market research, and marketing to maximize the probability of quick acceptance and longer-term success for the follow-on line. Upfront investment expenditures are summarized in **Table 1**.

Initial Expenditures (\$ thousands)	2010
Upfront R&D	\$ 625
Upfront Marketing	625
Investment in Working Capital	800
Property, Plant & Equipment	<u>1,470</u>
Total	\$ 3,520

The R&D and marketing expenditures would be deductible for tax purposes at company's 40% corporate tax rate. The property, plant and equipment was expected to have a useful life of 10 years; the associated depreciation charges, shown in **Exhibit 1**, were based on the modified accelerated cost recovery system ("MACRS") allowed by the IRS. Working capital requirements, shown in **Table 1** for 2010 and in **Exhibit 1** for subsequent years were based largely on recent historical experience with the original *Doll Clothing* line. Finally, given the proven success of *Doll Clothing*, Harris believed the project entailed moderate risk—that is, about the same degree of risk as the production division's existing business as a whole.

#### *Design Doll*

This initiative targeted existing customers, many of whom owned several of the company's heirloom dolls. The company's research showed that, when asked what features (e.g., appearance, ethnicity, "life story," etc.) company should give to future dolls, loyal customers' responses had a high correlation with their own personal data. That is, girls wanted dolls like themselves. Further research suggested that many loyal customers would purchase yet another doll if they could customize the doll's features to create a "one-of-a-kind" addition to a girl's or family's existing collection of dolls. It also promised to increase the girl's pride in and identification with the doll, both because of their shared features and because of the girl's participation in creating the doll. This in turn further cemented customer loyalty.

The customization process would begin with a new section of company's website, where proprietary design software enabled the customer to select physical attributes of the doll such as hair color, hair length & style, skin color, eye shape, eye color, and other facial features. The software could combine selected features and produce a photo-realistic image showing the

finished doll with user-selected accessories. The customer could zoom in or out on the image and rotate it to see different aspects. The software made it easy to try out different combinations of features and accessories before making a purchase.

Elizabeth Holtz, brand manager for heirloom dolls, was very excited about the project. She observed, “A girl’s relationship with her favorite doll is often partly mommy and partly big sister. Either way, having your doll look more like you is really powerful. And there’s excitement in the experience: exploring the website, naming the doll-to-be, selecting her first outfit...even the anticipation of waiting for the new doll to arrive. I really think this is big.” Holtz also believed that the dolls could command a premium price. “Customers will naturally expect to pay more [for a custom doll],” she said. Market research with focus groups revealed significant enthusiasm for the product concept and supported the notion of premium prices. However, even a limited degree of customization increased manufacturing complexity and expense. Further, because of the low production runs and volume, fixed costs on a per unit basis were expected to be relatively high. Consequently, the breakeven volume for the project was also expected to be high.

The web-based software tools and order entry system required company to make significant modifications to its existing technology infrastructure, expand its webhosting capacity, and modify the terms of its third-party service agreements to ensure a higher level of service quality. The majority of the R&D expenditures shown below were related to software development, hardware upgrades, and web design. The development time involved, including product testing, was expected to be approximately 12 months. Initial outlays, some of which occurred in 2010 and some in 2011, are summarized in **Table 2**.

**Table 2**

Initial Expenditures (\$ thousands)	2010	2011
Upfront R&D	\$ 841	
Upfront Marketing	\$ 360	
Investment in Working Capital		\$ 1,000
Property, Plant & Equipment	\$ 4,610	
<b>Total</b>	<b>\$ 5,811</b>	<b>\$ 1,000</b>

As with *Doll Clothing*, the required R&D and marketing costs would be tax deductible. Manufacturing equipment had to be ordered by the end of 2010 to be ready for production at the beginning of 2012. While company had the option to pay for custom equipment in quarterly installments, the firm could get a substantial discount by paying for the equipment up front, in 2010. Figures in **Table 2** and **Exhibit 2** reflect the discounted cost of the equipment. To support the forecasted level of sales, substantial investment in working capital (primarily work in process inventory of partially manufactured dolls) would be required beginning in 2011. And still more equipment would have to be purchased and installed no

later than 2014. In years 2015 and following, investments in working capital and equipment would revert to patterns familiar from the production division's traditional lines of dolls. To complete development work, Holtz planned to use some of the company's existing IT staff. The majority of the work would take place during calendar 2011. The number of people and their fully loaded costs are shown **Table 3**. These costs were not included by Holtz in the initial outlays shown in **Table 2** or in the forecasts presented in **Exhibit 2**. The development personnel Holtz needed were considered "corporate" resources and were almost certainly available to work on the project.

**Table 3**

<b>Application Development Personnel Costs:</b>	<b>Number</b>	<b>Salary</b>	<b>Total</b>
Web Application Developers	1	\$ 150	\$ 150
Database Manager	1	160	160
Systems Integration Specialist	1	\$ 125	<u>125</u>
<b>Total Cost</b>			<b>\$ 435</b>

Finally, Holtz needed to give Harris her assessment of the project's riskiness. On the one hand, *Design Doll* had a relatively long payback period, introduced some untested elements into the manufacturing process, and depended on near-flawless operation of new customer-facing software and user interfaces. If the project stumbled for some reason, company risked damaging relationships with its best customers. On the other hand, the project had a relatively modest fixed cost ratio, and it played to the company's key strength—creating a unique experience for its consumers.

### **Harris's Decision**

Emily Harris still needed to complete her review and financial analysis of the two proposals. McAdams and Holtz were in frequent touch with Harris and both had offered to respond to any questions she might have about the proposals: the business case, the financial projections, the operating details, or anything else. Harris expected that she would indeed have some follow-up questions as she worked through her financial analyses. She also knew that her final recommendation might disappoint some executives within the division, who would scrutinize it closely. It had to be well-supported.

### **Exhibit 1**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Revenue</b>		<b>\$ 4,500</b>	<b>\$ 6,860</b>	<b>\$ 8,409</b>	<b>\$ 9,082</b>	<b>\$ 9,808</b>	<b>\$ 10,593</b>	<b>\$ 11,440</b>	<b>\$ 12,355</b>	<b>\$ 13,344</b>	<b>\$ 14,411</b>
Revenue Growth			52.4%	22.6%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
<b>Production Costs</b>											
Fixed Production Expense (excl depreciation)		575	575	587	598	610	622	635	648	660	674
Variable Production Costs		2,035	3,404	4,291	4,669	5,078	5,521	6,000	6,519	7,079	7,685
Depreciation		152	152	152	152	164	178	192	207	224	242
<b>Total Production Costs</b>	<b>0</b>	<b>2,762</b>	<b>4,131</b>	<b>5,029</b>	<b>5,419</b>	<b>5,853</b>	<b>6,321</b>	<b>6,827</b>	<b>7,373</b>	<b>7,963</b>	<b>8,609</b>
<b>Selling, General &amp; Administrative</b>	<b>1,250</b>	<b>1,155</b>	<b>1,735</b>	<b>2,102</b>	<b>2,270</b>	<b>2,452</b>	<b>2,648</b>	<b>2,860</b>	<b>3,089</b>	<b>3,336</b>	<b>3,603</b>
<b>Total Operating Expenses</b>	<b>\$ 1,250</b>	<b>\$ 3,917</b>	<b>\$ 5,866</b>	<b>\$ 7,132</b>	<b>\$ 7,690</b>	<b>\$ 8,305</b>	<b>\$ 8,969</b>	<b>\$ 9,687</b>	<b>\$ 10,462</b>	<b>\$ 11,299</b>	<b>\$ 12,203</b>
<b>Operating Profit</b>	<b>\$ (1,250)</b>	<b>\$ 583</b>	<b>\$ 994</b>	<b>\$ 1,277</b>	<b>\$ 1,392</b>	<b>\$ 1,503</b>	<b>\$ 1,623</b>	<b>\$ 1,753</b>	<b>\$ 1,893</b>	<b>\$ 2,045</b>	<b>\$ 2,209</b>
<i>Working Capital Assumptions:</i>											
Minimum Cash Balance as % of Sales		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Days Sales Outstanding		59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x
Inventory Turnover (prod. cost/ending inv.)		7.7x	8.3x	12.7x	12.7x	12.7x	12.7x	12.7x	12.7x	12.7x	12.7x
Days Payable Outstanding (based on tot. op. exp.)		30.8x	30.9x	31.0x	31.0x	31.0x	31.0x	31.0x	31.0x	31.0x	31.0x
Capital Expenditures	\$ 1,470	\$ 952	\$ 152	\$ 152	\$ 334	\$ 361	\$ 389	\$ 421	\$ 454	\$ 491	\$ 530

## Exhibit 2

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Revenue</b>		<b>0</b>	<b>\$ 6,000</b>	<b>\$ 14,360</b>	<b>\$ 20,222</b>	<b>\$ 21,435</b>	<b>\$ 22,721</b>	<b>\$ 24,084</b>	<b>\$ 25,529</b>	<b>\$ 27,061</b>	<b>\$ 28,685</b>
Revenue Growth				139.3%	40.8%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
<b>Production Costs</b>											
Fixed Production Expense (excl depreciation)		0	1,650	1,683	1,717	1,751	1,786	1,822	1,858	1,895	1,933
Variable Production Costs		0	2,250	7,651	11,427	12,182	12,983	13,833	14,736	15,694	16,712
Depreciation		0	310	310	310	436	462	490	520	551	584
<b>Total Production Costs</b>	<b>0</b>	<b>0</b>	<b>4,210</b>	<b>9,644</b>	<b>13,454</b>	<b>14,369</b>	<b>15,231</b>	<b>16,145</b>	<b>17,113</b>	<b>18,140</b>	<b>19,229</b>
<b>Selling, General &amp; Administrative</b>	<b>1,201</b>	<b>0</b>	<b>1,240</b>	<b>2,922</b>	<b>4,044</b>	<b>4,287</b>	<b>4,544</b>	<b>4,817</b>	<b>5,106</b>	<b>5,412</b>	<b>5,737</b>
<b>Total Operating Expenses</b>	<b>\$ 1,201</b>	<b>\$ 0</b>	<b>\$ 5,450</b>	<b>\$ 12,566</b>	<b>\$ 17,498</b>	<b>\$ 18,656</b>	<b>\$ 19,775</b>	<b>\$ 20,962</b>	<b>\$ 22,219</b>	<b>\$ 23,553</b>	<b>\$ 24,966</b>
<b>Operating Profit</b>	<b>\$ (1,201)</b>	<b>\$ 0</b>	<b>\$ 550</b>	<b>\$ 1,794</b>	<b>\$ 2,724</b>	<b>\$ 2,779</b>	<b>\$ 2,946</b>	<b>\$ 3,123</b>	<b>\$ 3,310</b>	<b>\$ 3,509</b>	<b>\$ 3,719</b>
<i>Working Capital Assumptions:</i>											
Minimum Cash Balance as % of Sales			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Days Sales Outstanding			59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x	59.2x
Inventory Turnover (prod. cost/ending inv.)			12.2x	12.3x	12.6x	12.7x	12.7x	12.7x	12.7x	12.7x	12.7x
Days Payable Outstanding (based on tot. op. exp.)			33.7x	33.8x	33.9x	33.9x	33.9x	33.9x	33.9x	33.9x	33.9x
Capital Expenditures	\$ 4,610	\$ 0	\$ 310	\$ 310	\$ 2,192	\$ 826	\$ 875	\$ 928	\$ 983	\$ 1,043	\$ 1,105

※ Download and use provided excel file for exhibit to analyze