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MicroFridge: The Concept

In 1987 at age 31, Robert Bennett proposed to his wife, Martha, that he resign his job as a Boston computer salesman, sell their vacation home and other assets, and use the proceeds of $50,000 to found a business that he wanted to call "MicroFridge Inc."

Bennett, who had a Master's degree in engineering, wanted to exploit an idea of his to combine a refrigerator, freezer, and 500-watt microwave oven into a single unit for sale to college students. Bennett was aware that many colleges had rigid policies against cooking in student dormitories because of the risk of fire posed by hot plates. According to the National Fire Protection Association, there were over 1,600 fires annually on college campuses.

Bennett had devised electronic circuitry that shut off power to the refrigerator/freezer whenever the microwave oven was switched on. In this way, the unit would never pull more than 10 amps of current. By comparison, a hot plate in tandem with a refrigerator drew about 20 amps. His proposal (see illustration) was for a compact appliance weighing 87 pounds and under 4 feet in height.

He approached General Electric, Amana and other domestic appliance manufacturers without success, but Samsung Electronics and Sanyo Electric were willing to discuss terms for offshore manufacture provided Bennett agreed to pay upfront for all specialized jigs, dies, and tools. Sanyo offered to supply him at a landed price of $263.00 per unit, and estimated the upfront tooling payment at about $170,000. Bennett tentatively added a $300,000 budget to cover his first year of selling and administration, and $60,000 for incorporation, patents, and other start-up legal costs. He hoped to be able to set a price to the next level of the distribution channel that would earn him a return of 15% on the selling price, or $309 on Sanyo's landed price.

Professor John Deighton prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Early in his explorations, Bennett asked Boston's Atlantic Research to conduct interviews with 200 Massachusetts college students. He found that, although most schools had rigid policies against cooking in dorm rooms, 90% of his respondents nevertheless used hot plates and other hazardous appliances. His research found that students liked the concept of the MicroFridge and would pay extra to have one. A majority (52%) said they would be "likely" or "very likely" to accept an increase of $75 per year in dorm rates to have the use of one, and at $50 per year the interest level was 90%.

He met with college administrators at five local colleges, but initial responses were negative. One administrator feared that students would go off meal plans, and several pointed out that there was no student demand. The business manager at the University of Michigan commented, "We have not seen a group of students saying they want to have microwaves in their rooms. And that usually has to happen before we consider doing something like this. These days, we're encouraging students to have computers." However, fires were a major concern to officials responsible for dormitories and, after administrators considered his data on students' disregard for dorm rules, some attitudes softened. "You may have a good argument that a microwave can allow you some safe cooking in a student's room," commented one. Bennett came away from the meetings hopeful that with the right approach he might persuade administrators to consider approving, or even adopting, his product. He wondered whether students were the market, or whether colleges would buy the units themselves, just as they bought dormitory furniture and fixtures. One administrator told him, "If we did bring in something like this, I'd be worried about buying from a new company like yours. You've got a refrigerator and a microwave that's totally redesigned. You say the product life should be seven years, but this power switch has never been done before. Will this microwave last seven years or will it last three years?"

If dormitory administrators would not buy, the product seemed likely to have eye appeal and so sales through appliance retailers might be a possibility. Across the United States about 20 independent distributors sold appliances to retail stores, typically taking a margin of 15% of the price to the retailer. Retailers generally set a price to the consumer that earned them a margin of 30% on the retail price.

One evening Bennett polled guests at a small Super 8 Motel at an isolated location along the Boston – Providence freeway. Would they be willing to add $3 to their room rate to have a MicroFridge unit in the room? Most of those he spoke to said they would.

Bennett sought out the advice of the general partner of a venture investing firm in Boston. The partner declined to invest. "You've no experience. And it's quite different from the high-tech venture deals that we ordinarily look at. This is essentially a distributor business with inherently low margins and relatively high cash flow risks. It would require a fair amount of handholding if we got involved. Because of your lack of experience it makes a lot of sense to use only distributors and not keep house accounts [customers served directly by the manufacturer]. Any time you have house accounts you create problems with your distributors. You have enough other risks that you shouldn't risk your distribution channels."

Ms. Bennett, who worked as a financial manager at a major regional bank, was cool to her husband's idea. "For this you want to give up a secure job and take on the headaches of meeting payroll?" she said. "There's nothing in the product that could not be imitated. How are you going to build a business that can sustain itself against competition? A major appliance maker could come up with its own product in six months."