Case Study: Healthy Meal Kit Pilot Test
Utah State University Convenience Stores

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The Purpose: In March 2017, Utah State University launched a pilot test to see if consumers would embrace a healthy meal kit that could be purchased on campus and prepared at home. The concept is based on the growth of home meal delivery services (like Blue Apron) and a similar meal kit pilot test that took place at a Square One Markets convenience store in Bethlehem, Pennsylvania, in 2015. Results of that test have been published in a separate report). In both convenience store-based meal kit pilots, the intent was to address some downsides to many popular meal-delivery kits: a subscription, cost, packaging waste, and the need to plan a day or more in advance to order them.

Location
Utah State University (USU) is a public research university located in Logan, Utah. USU is Utah’s largest public residential campus, with nearly 18,000 of its more than 28,000 enrolled students living on or near campus. In addition to three full-service dine-in cafeterias, USU has seven food retail locations, including cafes, restaurants and convenience stores. One of those food retail locations, Shaw’s 88 Kitchen (Figure A), is an on-campus café that features a deluxe salad bar, sandwiches, heat-and-eat meals and grab-and-go snacks and beverage. Shaw’s 88 Kitchen serves students and staff Monday-Friday. Students make up the biggest portion of USU’s customer base at food retail stores.

Design
NACS conducted a national consumer survey with polling firm Penn Schoen Berland in September 2015 to see if consumers would be interested in purchasing meal kits, whether from an online retailer or traditional brick-and-mortar store. The results were very encouraging. Nearly one in three (32%) said they have purchased a dinner meal kit, but only 37% of these customers said that they were very satisfied with the kits. That meant that there were untapped opportunities, and could include retail sales. More than three in four consumers (77%) surveyed said that they would be interested in purchasing an all-in-one meal kit from a store. Convenience store customers were especially receptive: 85% of weekly convenience store customers said they would purchase a dinner meal kit.

The meal kits, called “CHEF-in-a-BOX” by Aggie Eats, offered students and staff a variety of 2- and 4-person healthy meal options, including vegetarian meat options.
Utah State University’s Executive Chef Don Donaldson worked with the campus culinary team and the operations supervisor to develop the meal kit recipes. USU developed 18 recipes with a different rotation of 3 to 5 meals offered per week. A vegetarian option was available every week. (See Appendix A for sample recipes.)

USU worked with its on-campus dietetic department to ensure that the meals were compliant with generally accepted nutritional guidelines, and were at or under per serving size guidelines. The recipe cards included nutritional information for each meal, as well as the equipment needed and step-by-step directions to prepare the meals.

**Execution**

The meal kits were priced at approximately $7.00 to $8.00 for a 2-person meal kit ($3.50-$4.00 per serving) and approximately $15.00 for a 4-person meal kit, depending upon the recipe. The kits were priced to closely match the cost of a meal purchased at the campus cafeterias to make them competitive. At approximately $4.00 per serving, the meal kits were less than half the price of most meal-delivery services, which range from $9.00-12.00 per serving on average.

USU worked through a series of challenges to find appropriate packaging for the meal kits to satisfy the health department’s food safety concerns. Initially, USU wanted to individually vacuum-pack all of the ingredients, but the location of the existing on-campus...
machine was too far from where the meal kits were assembled. Buying a second vacuuming machine for the test at Shaw’s 88 Kitchen was cost prohibitive. USU instead used sealable bags and portion cups.

The USU team worked with its on-staff graphic designer to develop a logo and marketing materials for the kits. The meal kit packaging featured the logo on large stickers, as well as the name of the recipe, key ingredients and the price of the kit. Detailed information about the ingredients, step-by-step preparation instructions and per-serving nutritional information was provided inside the box.

Prior to the launch, several USU employees tested the meal kits at home to ensure the ingredients and directions were accurate. After the tests confirmed that the project should continue, USU launched the “CHEF-in-a-BOX” By Aggie Eats meal kits pilot at Shaw’s 88 Kitchen on March 1, 2017, with an initial order of 10 kits.

A marketing campaign, featuring social media and in-store cooking demonstrations, took place later in March after the students returned to campus from spring break. The marketing campaign included flyers about the meal kits to all faculty and staff, door hangers on residence doors and a social media push across the University’s various social media platforms.

Results

While USU received mostly positive feedback from faculty and students, ultimately the meal kits presented too many challenges and USU stopped the test before the planned end date because of these challenges.

Early in the test, USU gave the meal kits away for free to generate interest in the program and gain feedback from customers. Overall, customers reported that they liked the recipes and meals but felt that some of the kits, especially the salmon kit, had high proposed price points. Customers also said they were only interested in purchasing the kits occasionally, not on a regular basis.

Approximately 5 weeks into the pilot, USU halted production of the kits to address food safety concerns. The health department raised concerns that the resealable bags and portion cups were not airtight, and air was able to potentially spoil the food. Instead, it was recommended that USU should use a vacuum air-tight packaging machine to seal all the individual meal kit ingredients. This option was impractical given the cost and logistics challenges outlined earlier.

Sales data is not available for the pilot test because many of the kits were given away for free and production started and stopped sporadically.

Figure B: The marketing campaign included flyers about the meal kits to all faculty and staff, door hangers on the doors of residence halls and a social media push across the University’s various social media platforms.
Customer Feedback:

USU included a customer feedback questionnaire in the meal kits, which received a 9% response rate. Many of the responses came from students and staff who received the meal kits for free in return for their feedback. Key takeaways include:

+ "I would have liked an estimated prep time."

+ "Put a QR code on the instructions with a video of a USU chef making the dish."

+ "Additional pictures/instructions on a blog would be helpful."

+ "An illustration of the finished product would increase clarity."

+ "Knowing the menu for the month would be appreciated."

+ "I loved the pre-portioned ingredients. It made the meal prep time much shorter."

+ "Love the idea! It was a lot of fun and handy to have all of the ingredients."

+ "Personally, I would likely never participate [in this program]. Grocery store shopping is just as easy & cheaper."

Lessons Learned

The “CHEF-in-a-BOX” by Aggie Eats meal kits highlighted several challenges and lessons for other convenience store owners and operators.

+ **Cost**: The meal kits were expensive to design and create. USU estimated that it would have to produce and sell approximately 75 kits per week just to break even. Those involved with the test did not feel they could maintain that level of production and sales. As a college campus with full-service dining offerings, USU could procure all of the ingredients needed at reasonable prices, but the cost of the packaging and other materials ultimately made the kits too expensive to produce at the $4.00 price point.

+ **Packaging**: The packaging presented USU with many challenges given food safety concerns and the cost associated with putting the kits together. The initial packaging design was not approved by the local health department and thus USU was forced to halt production midway through the pilot test. USU would have had to order new, expensive equipment to package the kits in a way that complied with the health department’s food safety concerns. It was also expensive for USU to create and produce package labels and other materials for the kits.

+ **Simpler is better**: If other stores were to create similar meal kits, they would likely have an easier time with simpler recipes, given the complexities involved in recipe curation and ingredient procurement.

+ **Timing**: The meals might have achieved stronger sales if the store was open on weekends to sell the meals. The extra time on the weekend might have led to more sales for students to cook at home.

+ **Difficult recipes**: Due to the complex nature of the recipes in the meal kits, student cooks may have found the products to be too difficult thus bypassing the product.

+ **Consumer expectations**: While consumer surveys had indicated there was interest in purchasing dinner meals kits, the sales did not reflect consumer interest. The biggest reason could be that consumers are not expecting to buy a meal kit at a convenience store. They are still accustomed to ordering meal kits from an internet-based company or a grocery store.

The pilot test demonstrated the challenges convenience stores face in producing and selling meal kits to customers, despite the promising consumer data that customers are interested in purchasing healthier meal options from convenience stores. Utah State noted that, for the average convenience store, it would likely be a more complex challenge to produce a meal kit given the resources that a large university campus has.

This may be a concept that is still ahead of its time for smaller convenience stores, or appropriate for larger convenience store chains that operate their own distribution centers, bakeries and commissaries, as well as operate highly evolved and dedicated foodservice programs.
Meal Kit Recipe: Sesame Chicken

Ingredients:

+ 10 Ounces Chopped Chicken Breast
+ ½ Cup Jasmine Rice
+ 2 Cloves Garlic
+ 2 Scallions
+ ½ Pound Bok Choy
+ 3 Tablespoons Cornstarch
+ 3 Tablespoons Soy Glaze
+ 2 Tablespoons Rice Vinegar
+ 2 Tablespoons Sesame Oil
+ 1 Teaspoon Black & White Sesame Seeds
+ ¼ Teaspoon Crushed Red Pepper Flakes

Equipment needed:

Prep bowls, Chef knife, Cutting boards, Nonstick pans, Small pot, Wooden spoons, Tongs.

Directions:

1. **Cook the rice**

   In a small pot, combine the rice, a big pinch of salt and 1 cup of water; heat to boiling on high. Once boiling, cover and reduce the heat to low. Cook 12 to 14 minutes, or until the water has been absorbed and the rice is tender. Remove from heat and fluff the cooked rice with a fork. Stir in ¼ of the vinegar.

2. **Prepare the ingredients**

   While the rice cooks, wash and dry the fresh produce. Cut off and discard the root end of the bok choy; roughly chop the leaves and stems. Peel and mince the garlic. Cut off and discard the root ends of the scallions; thinly slice, separating the white bottoms and green tops.

3. **Cook the bok choy**

   While the rice continues to cook, in a large pan (nonstick, if you have one), heat 2 teaspoons of olive oil on medium-high until hot. Add the bok choy and garlic; season with salt and pepper. Cook, stirring occasionally, 2 to 3 minutes, or until the bok choy is bright green and slightly wilted. Transfer to a plate and season with salt and pepper to taste. Wipe out the pan.

4. **Cook the chicken**

   Pat the chicken dry with paper towels and place in a bowl. Season with salt and pepper; toss to coat. Add the cornstarch; toss to thoroughly coat. In the same pan, heat a thin layer of oil on high until hot. Once the oil is hot enough that a pinch of cornstarch sizzles immediately when added to the pan, add the coated chicken (shaking off any excess cornstarch) in a single, even layer. Cook 3 to 5 minutes on the first side, or until golden brown. Turn and cook, without stirring, 2 to 3 minutes, or until browned and cooked through.

5. **Reduce the heat to medium-high**

   To the pan, add the cooked bok choy, white bottoms of the scallions, soy glaze, remaining vinegar, sesame oil, half the sesame seeds, ¼ cup of water and as much of the red pepper flakes as you’d like, depending on how spicy you’d like the dish to be. Cook, stirring occasionally, 2 to 3 minutes, or until well combined and the chicken and bok choy are thoroughly coated. Remove from heat; season with salt and pepper to taste.

6. **Plate the food**

   Divide the cooked rice and finished chicken and bok choy between 2 dishes. Garnish with the green tops of the scallions and remaining sesame seeds. Enjoy!

Appendix A
Sample recipes with ingredients, cooking instructions and nutritional information.
Summary

The convenience store industry shares more ideas than any other retail channel. For this project, retailers allowed NACS to test key insights and share the results with other retailers who can consider how these findings may improve their own operations. As part of its reFresh initiative, NACS worked with food and merchandising experts to develop eight convenience store-specific ideas to grow sales based on evidence-based practices. NACS then undertook additional pilot tests to further define how these practices could grow sales (read more at convenience.org/refresh).