

Archeological benchmarking: Fred Harvey and the service profit chain, *Circa* 1876

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Abstract

This article illustrates the potential for studying best practices from the past, engaging in what we term *archeological benchmarking*. Our focus for this study was the Fred Harvey Company, which operated a highly successful string of restaurants and hotels along the Atchison, Topeka and Santa Fe Railroad line starting in 1876, reaching its peak around 1912, and continuing until the early 1950s. Fred Harvey was a visionary businessman who understood many of the key concepts guiding the most successful service operations today. This article describes the operating system Harvey used for delivering 15 million meals per year in 65 restaurants extending over a span reaching from Chicago to San Francisco. The underpinnings of Harvey's system foretold concepts considered new today, particularly the *service profit chain* [Heskett, J., Jones, T., Loveman, G., Sasser Jr., W.E., Schlesinger, L., 1994] and its reliance on a clear operations strategy supported by well-trained, loyal employees and a congruent system of measurement. It is significant that Harvey achieved his success without the advantages of modern information systems by relying, instead, on his iconic leadership, dogged attention to mundane details, and the service culture he was able to embed throughout the far-flung enterprise. The Harvey story is an example of ahead-of-its-time operations thinking, but it also asks us to attend more broadly to the history of the field – as does this entire special issue – as a source of inspiration and grounding.

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“Don’t slice the ham too thin.” Reported last words of restaurateur, entrepreneur and visionary, Fred Harvey. (Poling-Kempes, 1991)

Many traditional histories of operations management begin with the work of Frederick Taylor, Frank and

Lillian Gilbreth, Henry Ford, and other luminaries of the early 1900s. And, regardless of their chronology, most historical accounts of operations innovations are focused on manufacturing. This paper describes the little-known but pioneering service system used by Fred Harvey more than a quarter century before the era of Scientific Management, and almost 100 years before McDonald's demonstrated the value of production-line thinking in a service environment (Levitt, 1972). Harvey operated a successful string of restaurants, hotels, and other services along the Atchison, Topeka, and Santa Fe Railroad (ATSF), beginning in 1876 and

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continuing to the early 1950s. Two quotes set the tone for the more detailed discussion that follows:

“The table service of the Santa Fe route is furnished by the Fred Harvey system. It is the best in America. The Harvey system is in a class by itself. The service is better, quicker, cheaper, cleaner, more intelligent.” (White, 1903—as reported by Poling-Kempes, 1991)

“Mr. Harvey’s genius for administration is displayed in an efficiency system which is unrivaled in all business enterprises of America. It ranges from the more prosaic details of a microscopic system of auditing, to the rifling of the markets of the world for the materials which go upon his table.” (Kansas City Journal, 1917—as reported by Poling-Kempes, 1991)

Fred Harvey achieved his success in an era when quality service was typically available only to the moneyed upper classes who could afford legions of servants. Service implied one-on-one servitude, but not necessarily efficiency (Levitt, 1976). Harvey departed from the traditions of his time to offer mass-customized, high-quality service to the train-traveling middle class. In presenting Harvey’s system, our central objective is to illustrate that operations concepts considered new today actually were alive and well over 100 years ago. And, we can still learn useful ideas from them. Such archival discoveries underscore the value of historical, or archeological, best-practice benchmarking.

1. Methods

In researching the Fred Harvey meal delivery system, we employed a variety of investigative approaches, including site visits, personal interviews, examination of archival data, video reviews, and an extensive literature search. Our approach can be best described as case-based research (Eisenhart, 1989). We had for some years been aware of the Harvey system because of our frequent visits to the Grand Canyon, where a Fred Harvey museum displays numerous artifacts. Consequently, we began our more formal study with a high level of appreciation for the effectiveness of Harvey’s services. Based on our initial understanding of what had enabled Harvey Houses to function so well, we sought a conceptual framework that might offer further explanation. Although case-based research often is exploratory, it is useful for researchers to begin with a framework in order to extract meaning from observations, and as a vehicle to

guide the data collection process (Yin, 2003a,b). Our goal went beyond the usual theory building so often associated with academic case-based research in that we considered ourselves to be archeological benchmarkers, seeking historical best practices for potential application in the current era. Benchmarking often is most useful when conducted outside of one’s industry (Brown and Schmitt, 2004), so we were hopeful we would discover ideas with applicability beyond food service delivery. Our literature search, framed by our understanding of the Harvey system, led us to select the *service profit chain* (Heskett et al., 1994) as the basis of our study.

2. Conceptual framework: the service profit chain

A seminal article by Heskett et al. (1994) offers an integrative model the authors call the *service profit chain*, and which they use to explain the practical links that make world-class service operations function in an effective and sustainable way. The central thesis of the model is that a customer-driven operations strategy, supported by employee-focused human resource practices, well-designed processes, and congruent measurement systems, will engender commitment from both employees and customers, leading to long-term profitability. Numerous empirical studies published since the original *service profit chain* article show strong support for the model’s propositions (Schneider et al., 2005). The elements of the model, which we will discuss in relation to the Harvey system, are shown in Fig. 1.

The *service profit chain* is built on seven propositions, which correspond to the system elements shown in Fig. 1. Table 1 lists these propositions and shows, in brief form, how the Harvey system operationalized each one. Later sections of this paper offer further elaboration.

Service profit chain concepts have received attention across a spectrum of academic business disciplines (e.g., see Zeithaml and Bitner, 2003), including the field of operations management. Recent references from the *Journal of Operations Management* include Metters and Vargas (2000), Hill et al. (2002), Stanley and Wisner (2001) and Meyer and Collier (2001). Although the model’s constructs and links have been drawn from behavioral research, some of the proposed relationships and directional arrows may require further empirical investigation (Schneider et al., 2003). Despite this, few question the key linkages among the elements of the variable set: a customer-focused operating strategy, well-designed service delivery system, motivated and

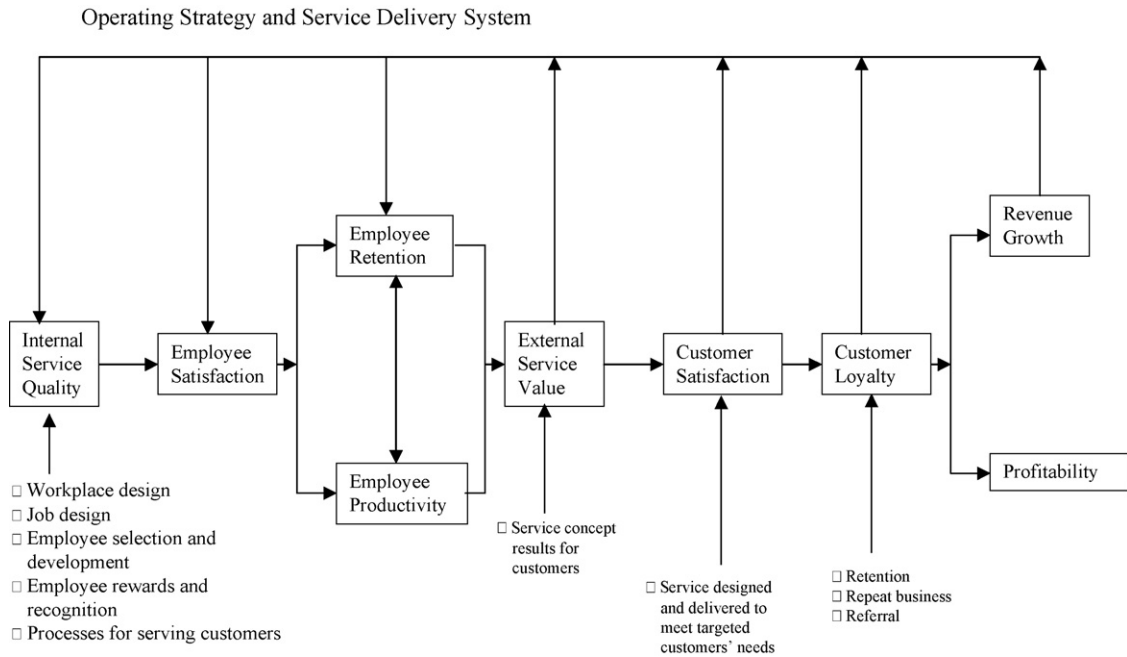


Fig. 1. Service profit chain. Adapted from Heskett et al., 1994.

committed employees, and profitable operations. And some – notably, Fred Harvey – seem to have recognized these important relationships well in advance of the model's development. It is important to acknowledge,

however, that Taylor (1911) also was aware of *service profit chain* synergies between employee and employer goals as they applied to manufacturing environment. The following quote from *The Principles of Scientific*

Table 1

Service profit chain principles applied to the Harvey system

Service profit chain principle	Harvey system parallel
1. Internal service quality drives employee satisfaction	1. The Harvey system was built on standard operating procedures that delivered first-class service and food. Employees derived satisfaction from being able to give customers what they wanted in a timely manner, and from the appreciation their customers expressed via personal thanks and generous tips
2. Employee satisfaction drives loyalty	2. Fred Harvey offered competitive pay, a pleasant work environment, and benefits unusual for the time. In return, his employees, many of them young women known as Harvey girls, remained with the company for the long-term
3. Employee loyalty drives productivity	3. Harvey's loyal employees believed in the value of the system he created because they could see the results. These loyal employees knew the system well, followed operating procedures "to a T," and contributed ideas for improvement
4. Employee productivity drives external service value	4. Harvey's well-trained employees were able to serve a trainload of passengers, from start to finish, in 30 minutes. Speed was essential to Harvey's relationship with his contractual partner, ATSF. The swift turnaround time would not have been possible without the capable staff Harvey cultivated and retained
5. External service value drives customer satisfaction	5. Consistently high-quality food, short turnaround time, clean, pleasant surroundings, and exceedingly polite staff members drew rave reviews from customers
6. Customer satisfaction drives customer loyalty	6. Harvey recognized that a customer dining at a Harvey House offered lifetime potential for repeat business, and that is what he got. His satisfied customers not only returned, but spread the word to others
7. Customer loyalty drives revenue growth and profitability	7. Harvey's loyal, returning customers created substantial revenues for the restaurant operation, but also felt inspired to purchase other Harvey services such as lodging and tours

Note. These principles are shown in reverse order from their presentation in the original *service profit chain* article.

Management offers evidence of Taylor's insight: "Maximum prosperity for the employer, coupled with maximum prosperity for the employ  , ought to be the two leading objects of management. . ." (pp. 9–10)

3. Overview of the Harvey system

Beginning in 1876, Harvey Houses on the Atchison, Topeka and Santa Fe (ATSF) Railroad line served high-quality meals in a just-in-time manner to hundreds of thousands of passengers traveling east to west and back. Fred Harvey, the visionary founder and proprietor until his death in 1901, designed his operating system to support the partnership he had formed with the railroad company. ATSF would provide him with land for his facilities, and transportation for his supplies and employees, if he would offer high-quality food and service during 30-minute train stops along the rail line. Some aspects of the system were depicted in a 1946 Judy Garland movie entitled "The Harvey Girls," which received an Academy Award for Best Song ("On the Atchison, Topeka, and the Santa Fe"). The Harvey–ATSF partnership and resulting service became the legendary cornerstones of ATSF's market success because they distinguished the line from competitors who could not offer the Fred Harvey advantage. Railroad historians (e.g., Glischinski, 1997; Solomon, 2003) attribute ATSF's comparatively greater ridership to passenger preferences associated with Harvey services. In the sections below, we describe how this system came to be, the details that supported its function, and how it foretold the *service profit chain* and other modern operations and service marketing concepts.

3.1. Fred Harvey: a service visionary

In 1850, Fred Harvey emigrated from London to New York City at the age of 15. He soon found himself involved in the restaurant business, first as a bus boy, and 7 years later as a restaurant owner in St. Louis, Missouri. Because of financial problems related to the war between the states, and a dishonest business partner who also did not appreciate Harvey's attention to detail and standard operating procedures, Harvey abandoned the enterprise and took a job with the Hannibal and St. Joseph Railroad.

Harvey's job with the Hannibal and St. Joseph (also known as the *Horrible and Slow Jolting* (Armstrong, 2000)) led him to several important insights that would shape the remainder of his business career. As part of his first job with the line, he participated in a newly-devised

service innovation: he and a colleague reportedly were the first to sort mail while a train was in transit (Armstrong, 2000). Previously, the mail had been sorted at stations and then loaded onto trains. On-board sorting represented an early application of parallel processing in services, and undoubtedly inspired his later time-compressed service innovations. Harvey subsequently went to work for the North Missouri Railroad (as reported by Armstrong (2000), Poling-Kempes (1991) indicates that Harvey was employed at the time by the Quincy Railroad), becoming its General Western Freight Agent by 1876. A photographic portrait of Fred Harvey, most likely taken in the 1870s, is shown in Fig. 2.

As time progressed, Harvey's work came to necessitate frequent rail travel, offering him intimate knowledge of the poor food and even worse lodging conditions available to passengers. The following highlights the situation he observed:

"Meat was greasy and was usually fried, beans were canned, bacon rancid, and coffee was fresh once a week. Pie, if found, was of the dried-fruit-and-crust variety, biscuits were known as 'sinkers,' and eggs were shipped 'fresh' from back East, preserved in lime. A 'chicken stew of prairie dogs' was not

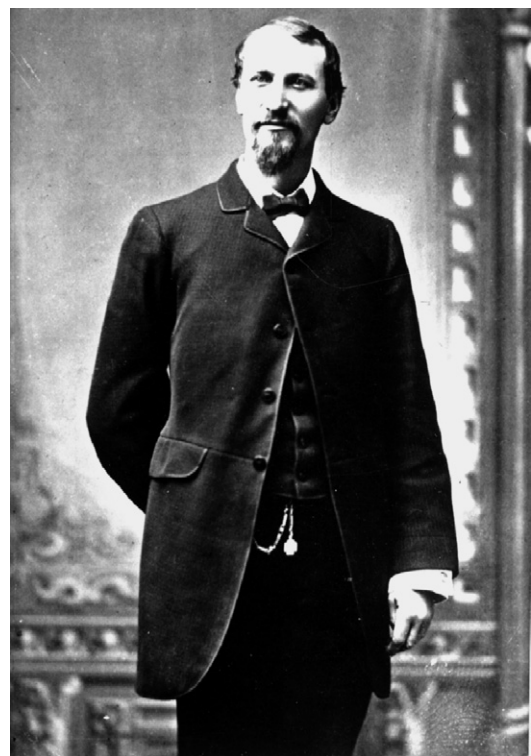


Fig. 2. Fred Harvey (courtesy Kansas State Historical Society). Estimated date: 1870s.

uncommon, and the ‘chops were generally as tough as hanks of whiplcord and the knives as blunt as a bricklayer’s trowel.’ If the food didn’t frighten a traveler, the atmosphere of a train dining stop could, complete with ‘dangerous looking miners in big boots and revolvers,’ and ‘tables dirty and waiters not only dirty but saucy.’” (Poling-Kempes, 1991, p. 31, with internal quotes from Bryant, 1974; Marshall, 1945)

The ATSF Railroad line ran along the original route of the Santa Fe Trail, first traveled by horses and wagon trains, and later by stagecoaches. Those using the old modes of transportation were intrepid travelers, prepared for the worst. Although the rough conditions at resting points were abominable, they fell within the expectations of these hardy passengers. However, the new rail line offered western adventure to ‘softer’ Easterners who were not mentally or physically prepared for these hardships. Fred Harvey may have been the only one who truly recognized the gold to be mined from this shift in customer demographics.

Harvey saw the opportunity for offering needed services along westward-headed rail lines and in 1876 convinced ATSF officials to give his ideas a chance. He first offered this business proposal to executives at the Burlington Railroad, but they turned him down, feeling that their market dominance could be sustained without these added services. (They undoubtedly later lived to regret this decision.) Initially, ATSF gave Harvey access to a restaurant building in Topeka, Kansas to experiment with his ideas. (This was not unlike Thomke’s (2003) modern-day prescriptions about experimenting with service innovations.) ATSF also afforded him full access to the train system for transportation of fresh food, supplies, and employees.

The agreement between Harvey and ATSF expanded over time, becoming a formal contract in 1878 (Armstrong, 2000), and granting Harvey exclusive rights to operate eating houses, lunch stands, and lodging establishments along the line. The railroad also guaranteed a specified number of stops per day, ensuring Harvey a steady and predictable flow of



Santa Fe Fred Harvey Railway Meal Service

It Stands Alone

The Santa Fe Dining Station Service, managed by Fred Harvey, is a distinctive feature of this Railroad.

Conceived with high ideals and proceeding consistently upon the principle that nothing but the best is satisfactory, it is an example of a complete unit developed with rare genius by a master caterer working for superiority. It has been almost fifty years in the building.

Convinced of the value of an outstanding service of this character, the Santa Fe early provided appropriate locations for its dining-stations, affording sufficient frequency to meet varying schedules and emergencies, and determined to feature such stations in the character of its improvements and the standard of its service.

Each year refinements have been introduced and important improvements effected until today, in consequence of wise forethought and the pursuit of broad liberal policies, the Santa Fe Dining Station System has achieved a reputation for excellence and efficiency in providing for the wants of the overland traveler which has become international, and without a parallel in American railroading.

Trains Nos. 9 and 2—The Navajo—Nos. 1 and 10—The Scout—Nos. 21 and 22—The Missionary—and No. 8—The Hopi—are served at dining-stations west of Kansas City. These dining-stations are located about 125 miles apart and ample time is allowed for meals—average stop being thirty minutes. The dollar table d'hôte meals have no equal the world over. Fast of Kansas City meals for these trains are served in dining-cars.

For those desiring a light repast, there are lunch-rooms with a la carte

service, operated in connection with the dining-rooms, serving same quality of food.

Trains Nos. 3 and 4, The California Limiteds, and Nos. 23 and 24, The Grand Canyon Limiteds, carry a dining-car through between Chicago and Los Angeles. Frequently these trains are stopped at dining-stations for the evening meal, offering patrons choice of dining aboard the train or at one of our artistic station-hotels—a unique feature.

Trains Nos. 19 and 20—The Chief—carry a dining-car through between Chicago and Los Angeles.

Fig. 3. Advertisement for Fred Harvey meal service from a 1930 train schedule (Poole Brothers, 1930). (Courtesy Ross Capon, Executive Director, American Association of Railroad Passengers.) (Courtesy Ross Cooper, American Association of Railroad Passengers).

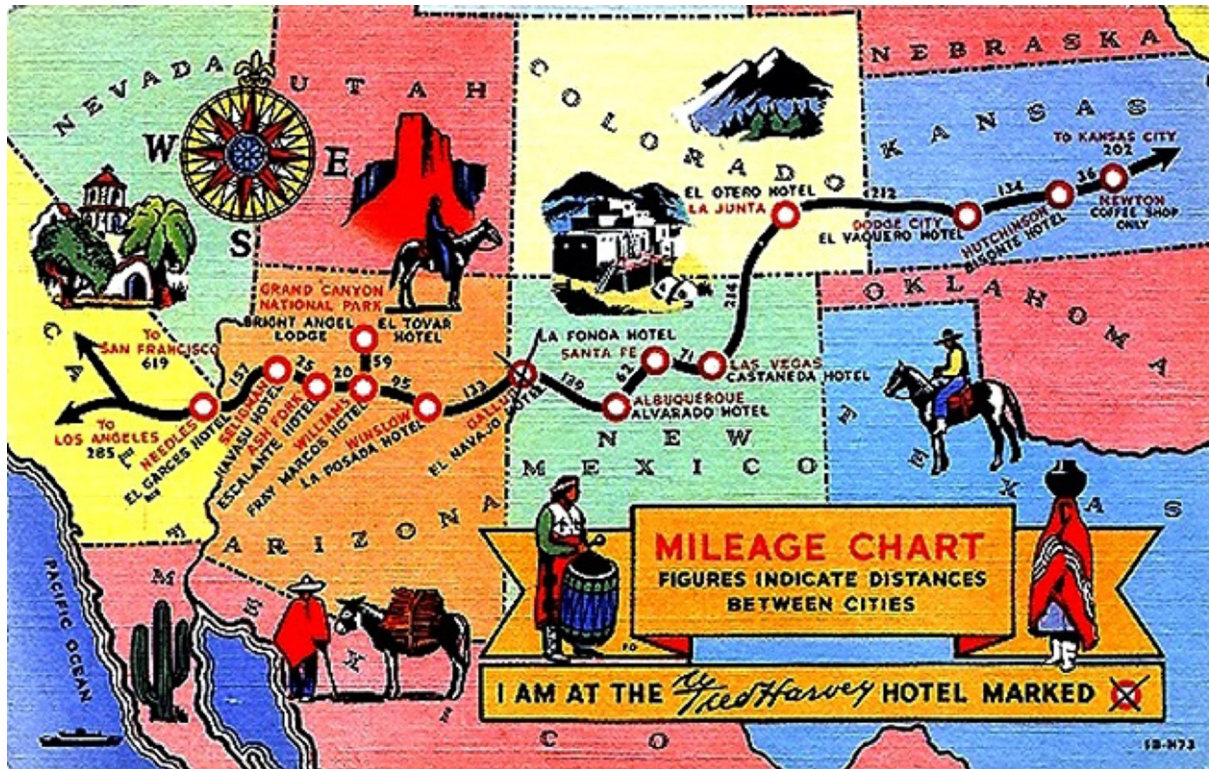


Fig. 4. Souvenir postcard replica showing Harvey House locations. (Courtesy of Jeff Jensen for bygonebyways.com.)

customers. This steady flow is recognized in the current era as one of the key elements of a lean system, but Harvey undoubtedly saw the connection back then. When railroads added dining cars in the late 1800s, Harvey became the concessionaire for these services, as well. Typically, meals were served on-board from Chicago to Kansas City, and then at Harvey Houses for remaining stops *enroute* to the West Coast. Fig. 3 shows a 1930 advertisement for Santa Fe Fred Harvey Railway Meal Service. The advertisement demonstrates that ATSF saw Harvey's meal service as offering a distinctive advantage over rail line competitors.

3.2. The Harvey House operating system

The Harvey House meal ordering system was a model of just-in-time operations—preparing in an on-demand way exactly the meals requested by customers. Here is how the system worked (Fig. 4):

As a train progressed along the ATSF line, a conductor asked each passenger to designate his or her preference for the upcoming meal stop. After the orders were recorded, the train continued on its path until it arrived at a station with a telegraph office. There, orders were

telegraphed ahead to the next Harvey House, where the meal was to be served (Poling-Kempes, 1991). Or, if there was not a stop with a telegraph station, the information was passed to the engineer, who blasted a whistle code heard miles ahead by Harvey House employees (Armstrong, 2000). Harvey houses were located, on average, about 125 miles apart (Poole Brothers, 1930) along the line, although some were over 200 miles apart and others only 20. A stylized map depicting Harvey House locations is shown in the postcard replica displayed in Fig. 4.

Typically, the advance orders arrived several hours ahead of the passengers, allowing Harvey employees time to prepare the meals and have them ready. Lead times varied, but if we assume an average travel speed of 30 miles/hour¹ and an average between-house distance

¹ Train speed increased during the Harvey era, but a record of 50.4 miles/hour was set on the LA to Chicago route in 1905, with a special train that served all meals on-board and did not need to stop at Harvey Houses (Glischinski, 1997). However, the 1930 train schedule referenced in relation to Fig. 3 shows mileage and times for some city pairs. For those where this information was available, we calculated an average of 28.33 miles/h.

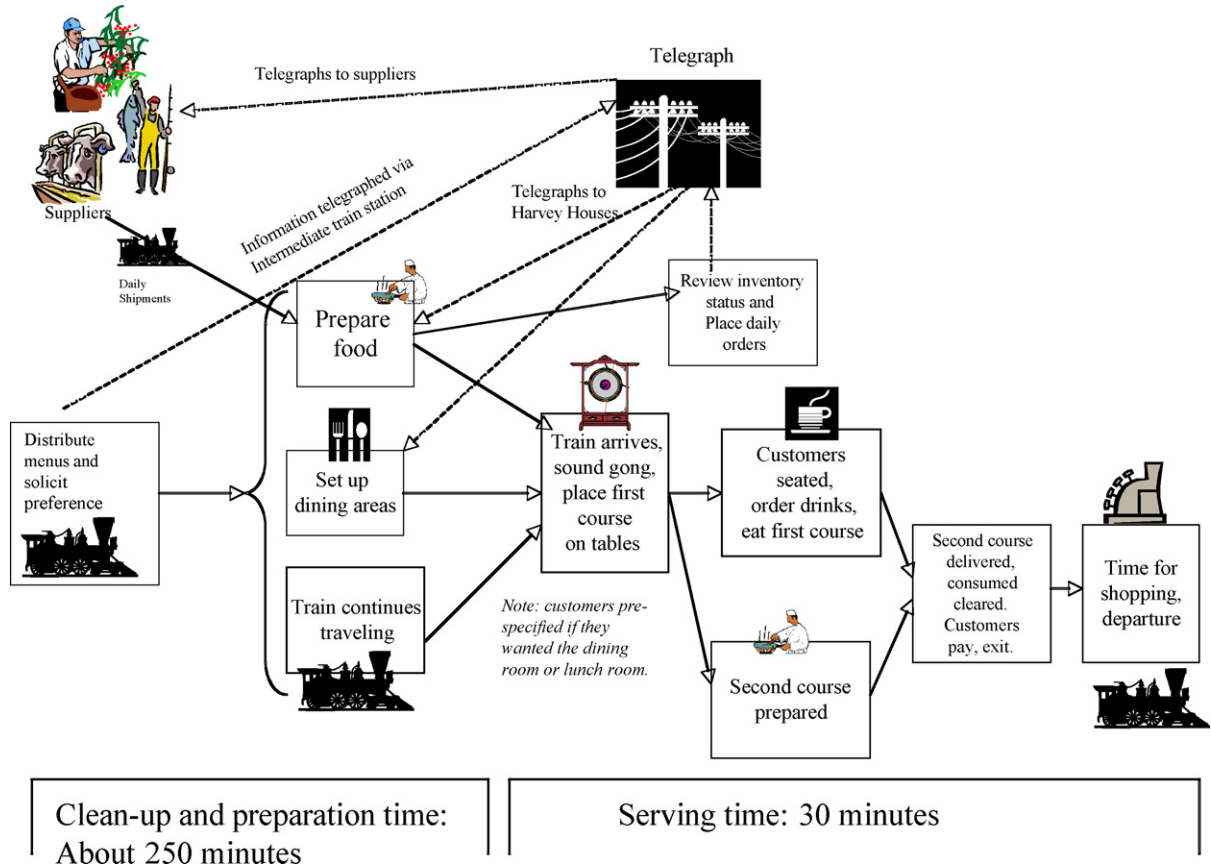


Fig. 5. Value stream map of the Harvey operating system for serving meals to in-transit train passengers. Preparation time varied, depending on the distance and travel time from the previous telegraph station. If we assume an average speed of 30 miles/hour and an average distance of 125 miles, Harvey employees would have about four hours to prepare once they had received an order. In some cases, distances were greater and travel speeds slower. At ATSF's business pinnacle, a Harvey House crew might be expected to serve three loads of train passengers in each 24-hour period. This often required employees to work split shifts (Poling-Kempes, 1991).

of 125 miles, this would allow Harvey House employees more than four hours to prepare for a group of passengers. A pre-established train schedule, along with historical data about seasonal demand patterns, gave each Harvey House manager a basis for aggregate planning. The meal orders triggered detailed production plans and, ultimately, supply chain orders. A depiction of the operating system, in a format akin to a modern-day value stream map (Rother and Shook, 1998), is shown in Fig. 5.

A precisely-specified set of activities went into full swing as soon as a Harvey House received a wire or whistle signal from an approaching train. As the train continued toward the Harvey House, cooks began preparing food in the specified quantities while servers set the designated number of tables, following strict operating procedures. When the train arrived, an employee sounded a loud gong, an auditory control mechanism signaling the entire staff to assemble at

pre-designated stations and place the first course on the tables. Customers were ushered to their seats; they made their drink orders and began eating. Meanwhile, the second course was being readied for delivery precisely at the appropriate time. One segment of the previously mentioned MGM movie "The Harvey Girls" depicts the organized frenzy that occurred upon the arrival of a trainload of passengers. As shown in the movie, waitresses knew to 'serve to the left and take off from the right' as they moved diners onto the next courses and then to dessert. (We encourage those who wish to use the Harvey story as a classroom example to show this segment of the MGM film as part of the discussion.)

Harvey's standard operating procedures ensured consistency, which made the system easier to manage, in many respects. For example, they made it possible for Harvey employees to move seamlessly among locations, offering opportunities for staff members, and

allowing Harvey to match supply and demand as it shifted over time and across seasons. Such careful attention to capacity planning was unusual for its day, and, indeed, was uncommon in services well into the 20th century (Sasser, 1976). Employee movement across locations undoubtedly increased the incidence of knowledge transfer among Harvey Houses and contributed to increases in productivity (see Darr et al., 1995, for a discussion of these concepts applied to modern franchise fast food operations).

If the meal service was fast enough, there might be a few minutes for passengers to purchase Native American curios in the Harvey shop next door. Artistic samples of jewellery, rugs, and baskets were part of the Southwest-inspired restaurant décor (created by Harvey's chief architect Mary Colter), giving diners a taste of what they might find in the shops. One might recognize this practice today as an example of stealth marketing—an approach that embeds advertising signals in a covert manner (Kaikati and Kaikati, 2004). As it happened, the food and service were so good, and the surroundings so inviting, that many passengers decided to stay a little longer before traveling farther west. This afforded Harvey the opportunity to cross-sell lodging and tours, and engage customers in additional shopping. With regard to Harvey's ability to delay a customer's westbound travel through outstanding service and attractive tourism options, one newspaper writer claimed:

“Travelers positively declined to go further once they had eaten with Fred Harvey. Traffic backed up, and it became necessary for the Santa Fe to open similar houses at other points along its right of way in

order that the West might not be settled in just one spot.” (Beebe, 1967, p. 14)

3.3. Key service innovation: the Harvey girls

By 1883, Harvey Company restaurants were operating with reasonable effectiveness, but some of those out west were plagued by problems with inconsistency in service delivery, in spite of the standards Mr. Harvey had established. His all-male western workforce was prone to absenteeism, drunkenness, rude behavior, and fighting—none of which endeared them to the genteel customer segment Harvey sought. A turning point came when Fred Harvey fired all of the waiters, and the manager, at Raton, New Mexico after a drunken brawl (Poling-Kempes, 1991). The newly hired manager requested permission to replace the dismissed rowdies with female staff members. Harvey was adamant about using standard processes across locations, but he listened eagerly for best practice ideas he could test and disseminate. Harvey approved the new hiring criteria, and quickly saw their value. From this seed, grew The Harvey Girls, perhaps Fred Harvey's most enduring legacy (see Figs. 6 and 7).

The workforce at each Harvey House included a chef, assistant chefs, a butcher, pantry girls, busboys, a housemaid, and a crew of 15–30 waitresses (Poling-Kempes, 1991). Each role was clearly specified, but Harvey did allow some movement across lines when supply and demand relationships required it. The waitresses, known as Harvey girls, became the front-line centerpiece of each restaurant's staff, and the



Fig. 6. Harvey House staff at counter (courtesy Kansas State Historical Society). Date estimated by Kansas State Historical Society: 1920s.



Fig. 7. Harvey girls at rest (courtesy Kansas State Historical Society). Date estimated by Kansas State Historical Society: 1900–1915.

system's most effective competitive weapon. They were educated, young women between the ages of 18 and 30, whom Harvey had recruited from the U.S. East Coast and Midwest. Harvey girls could read and write and were generally expected to have high school diplomas. Some were hired with eighth grade educations if they appeared to be sufficiently articulate. And, a few had attended college, including those trained as schoolteachers and nurses. They had to be willing to commit to minimum six to nine month contracts and move to locations where the company needed them. Part of the contractual requirement included an agreement not to marry during one's term of employment.

In an era, when there were few career opportunities for women apart from nursing and school teaching, Harvey House employment provided an additional option. Similar to today's guest workers who migrate to countries where they can find work, many Harvey girls were earning needed income to support the families they left behind.

Harvey knew these women and their families would require assurance that their reputations would remain intact in the Wild West, where many of the other single

women were either prostitutes or dance hall girls (or, at least that was the widely-held perception). Harvey built comfortable dormitories, imposed strict curfews, and specified behavioral rules for on and off work. These arrangements are similar to those associated with the Lowell cotton mills of the mid 1800s, and it is possible Harvey considered the Lowell practices as a benchmark. From 1823 and until the mid 1840s, "Lowell's factory workers were single, white, native-born women recruited from middle-class New England farms" (Tone, 1998). These women workers (also called "female operatives") lived in mill-supplied dormitories and were subject to stringent behavior rules aimed in part at maintaining their virtuous reputations. Harvey girls, likewise, generally enjoyed virtuous reputations, and often have been credited with civilizing the west by bringing good manners and wholesomeness with them.

4. Fred Harvey operations and the service profit chain

This section expands on Table 1 and Fig. 1 with more information about the Harvey system's parallels with

the propositions, elements, and linkages from the service profit chain. It also draws on other related concepts from the fields of operations management, marketing, and human resource management.

4.1. Operations strategy, job and workplace design: creating internal service quality

In the vernacular of the *service profit chain*, Fred Harvey had a clearly defined service concept for his market segment, and he put tremendous energy into designing and delivering his services to meet the customer needs he had identified. In the terminology of *value disciplines* made popular by Treacy and Wiersema (1997), we would say that Harvey had chosen operational excellence as his core competence. From the beginning, Harvey had a distinct vision of an operating strategy that would support customer needs, and, simultaneously, offer a ‘value-added’ dimension to ATSF.

Harvey’s top two operating priorities were speed and quality. Speed was the order qualifier (Hill, 1994), although it is highly unlikely Harvey used this term.² ATSF would not tolerate a serving time of more than 30 minutes, so Harvey would be out of business if he failed to meet this specification. This sort of pressure to meet time specifications is similar to that experienced by fast food franchise operators in the modern era (e.g., see Apte and Reynolds, 1995; Ordonez, 2000), but it would have been highly unusual in 1876.

Quality, the order winner, was key to the value-added proposition. Harvey offered first-class food, the supplies for which were delivered on a just-in-time basis via the railroad system. A diner in Arizona might enjoy fresh whitefish from the Great Lakes, and a diner in Kansas could find fresh, cold cantaloupe from California (Poling-Kempes, 1991). Where necessary, Harvey brought in good water to ensure that his famous coffee met the taste test. Similarly, he vertically integrated the enterprise supply chain, operating his own farms as a means of ensuring top-quality milk, butter and eggs.

Harvey also understood the role of consistency as a singularly important quality dimension. All menu items were prepared to exacting standards, and customers could expect precision in ingredients, portion sizes (they were large—for example, pies were cut into quarters), and preparation methods, wherever they dined. Moreover, the service itself, including table set

ups, course sequencing, even the appearance of servers, followed his precise specifications—these were universal across Harvey Houses.

It is worth noting that Harvey’s emphasis on consistency and standard operations predates by more than a quarter century the 1911 publication of Taylor’s *The Principles of Scientific Management*. And, although Taylor’s book and the revolution that followed had their most immediate influence on manufacturing operations, it was not until the advent of McDonalds in the early 1960s that restaurants began to fully embrace these concepts (Levitt, 1972). Thus, within his own industry, Harvey was nearly 100 years ahead of his time.

Variety and cost were the two operating priorities on which Harvey allowed some carefully structured compromises. Customers on train routes had two general choices: the dining room or the lunch counter. The dining room served a several-course meal with a limited set of *entrée* options—men were required to wear coats and smoking was prohibited. The less-formal, less-expensive lunchroom served menu items on an *ala carte* basis. Restaurants rotated the limited set of standard menus so passengers would encounter different meal choices at sequential rest stops over the course of a round-trip journey. These limits on variety enabled Harvey staff members to maintain the standardization and speed so essential to the system’s effectiveness. It is worth noting that although the options were limited, Harvey did give customers a sense of choice. Researchers in the current era have demonstrated that standard procedures give customers a welcome sense of ritual, but a feeling that they have some choice can increase their satisfaction (Chase and Dasu, 2001). Harvey knew this without the benefit of today’s empirical research.

Harvey’s emphasis on first-class dining outweighed cost control priorities. Some historians (e.g., Poling-Kempes, 1991) report that it was not unusual for a rail-based Harvey House restaurant to lose about \$1000 per month. According to Poling-Kempes (1991), when one conscientious manager cut portions and trimmed services to bring his loss from \$1000 per month to \$500 per month, Harvey fired him. As is true in so many historical analyses, it can be challenging to differentiate fact from legend. However, we assume that if Harvey did lose money on his restaurants, he probably had negotiated an agreement with ATSF to subsidize the difference and add a profit margin for the Harvey Company. Harvey did not build his empire simply on a cost-plus profit margin arrangement (or losses), however. As mentioned previously, the restaurants were part of a comprehensive business model, serving as

² As far as we know, Terry Hill was not writing books or giving seminars in the 1800s.

gateways for other commercial ventures where he sold tribal crafts, books, tours, and overnight accommodation. In current terminology, we might view Harvey's restaurants as his loss leaders (e.g., see Zeithaml and Bitner, 2003).

4.2. Human resource practices: exploiting employee–customer linkages

Mr. Harvey wanted front-line employees who would delight his customers and inspire them to stay longer or return for repeat purchases. The quotes presented earlier certainly offer evidence of the customer commitment Harvey was able to inspire. In a specific example, Will Rogers was a frequent and loyal Harvey customer and was known to write about his high level of regard for Harvey House food and service (Poling-Kempes, 1991). Clark Gable and Carol Lombard were other celebrity guests (Rowe, 2004).

According to the *service profit chain* model, employees should be trained to work in well-designed jobs and given the tools they need to deliver the best possible service in keeping with prescribed processes. Employees who are treated well, and who feel satisfied in their ability to meet customer expectations, will be more productive, more loyal, and more likely to stay with the organization. These factors, in turn, increase service value, customer satisfaction, and customer loyalty (Schneider et al., 2005), all of which feed performance and profit (Schneider and Bowen, 1988; Zeithaml and Bitner, 2003). Particularly with respect to the Harvey girls, the Harvey system achieved all of these objectives.

As mentioned previously, the *service profit chain* emphasizes the importance of employee satisfaction as an antecedent to employment longevity, customer satisfaction, and customer loyalty. Mr. Harvey did not use sophisticated employee surveys to gauge attitudes, but his frequent on-site audits undoubtedly revealed positive feelings and uncovered areas for improvement. He had the capacity to keep his finger on the pulse of his empire. A few quotes from Harvey girls, who were the most numerous among the ranks of his employees, offer anecdotal evidence:

“I felt protected and looked after as a Harvey Girl in those days. . . . The staff was like a big family to me.” Gladys Porter, 1900 (Poling-Kempes, 1991; p. 68)

“The thing I really appreciated about Harvey was the way they treated you – like you were their own flesh

and blood.”—Olive Winter Loomis, 1918 (Poling-Kempes, p. 77)

“I was respected and protected and the management at the house was wonderful.” Elizabeth Alice Garnas, 1926. (Poling-Kempes, p. 79)
I grew up in a small community, and I hadn't been anywhere. I'll never forget those days [as a Harvey Girl]. They were wonderful”—Rosine Gray, 2004 (Rowe, 2004)

Because of his intuitive understanding of the links among employee loyalty, employee productivity and customer loyalty, Fred Harvey went out of his way to keep employees happy and turnover low. Six practices were central to this effort: selection, pay and benefits, contractual incentives, realistic job previews, opportunities for advancement, and adaptability. We reference these primarily in relation to the Harvey girls, but most of the practices we highlight applied to other employees, as well.

4.2.1. Employee selection

According to *service profit chain* prescriptions, an organization should select employees whose attitudes, demeanor, and capabilities fit the service model. Consistent with these principles, Harvey sought educated, articulate young women, many from farming families with strong work ethics, to fill the ranks of restaurant serving crews. Similarly, effective organizations in the current era have emphasized employee selection criteria focused on the need for customer contact skills.

Chase (1978) offers additional insight, which Fred Harvey also seems to have possessed—the notion that back room and front-line employees require different sets of skills and should, therefore, be hired based on different criteria. Harvey sought young, attractive females for the front room operations, but his back room kitchen staff reflected a different demographic (primarily males of various ages) and possessed a skill set appropriate to the work required (cooking and cleaning). Moreover, Fred Harvey was not unlike his modern-day successors in applying a certain level of gut feel in his hiring decisions. For example, he was known to reject an otherwise qualified candidate simply because she chewed gum during her interview (Poling-Kempes, 1991). As Zada Sharon (aged 81) commented at a recent reunion of Harvey girls, “They wanted real quality in the girls they picked. They didn't want just anybody. They wanted somebody the public would respond to.” (Rowe, 2004)

Table 2

Pay and benefits comparison in 1904—How well did Harvey girls fare? (based on data from Poling-Kempes, 1991)

	Typical monthly wage (\$)	Tips?	Room?	Board?	Travel expenses?
Harvey girls	17.50	Yes, could double one's salary to \$35.00 per month	Yes	Yes	Yes
Waitress in California	24.00	Yes, generally not as high as Harvey tips	No	No	No
Male farm worker	11.70	No	No	Yes	No
Male skilled laborer	54.24	No	No	No	No
Public school teacher (typically female)	21.33 ^a	No	Yes, in small, remote communities	No	No

^a This monthly figure is calculated as 1/12 of the annual salary reported by Poling-Kempes (1991) and is based on the assumption that the school teacher did not have summer income. Of course, if she worked as a Harvey girl during the summer, which some did, her average monthly income would be higher.

4.2.2. Pay and benefits

The employment package Harvey offered was unusually attractive. According to Poling-Kempes (1991) “Harvey Girls were undoubtedly at the top of their profession’s pay and personal treatment scale” (p. 57). Table 2 offers concrete evidence.

Harvey was not a stingy employer, and his generosity was apparently sincere:

“In a last generous gesture to his employees, Harvey’s will included a provision stipulating that every person in his employ at the time of his death was to receive a lifetime pension equal to his³ salary at the time of retirement.” (Armstrong, 2000, p. 24)

4.2.3. Contractual incentives

Any employee signing on with Harvey had to agree to a six-to-nine month contract. At the end of the contract, the employee was given a train ride home. Many renewed their contracts after short or long visits with their families. Anyone remaining in the employ of the Harvey Company for four years received an expense-paid vacation to California. Harvey also looked for more personal incentives for engendering employee loyalty. So, for example, a widow with children might find herself with a job, housing for her family, and childcare, even though official Harvey policies would not have permitted such flexibility. Current research indicates that reducing employee turnover in food service operations can have significant effects on productivity and cost (Darr et al., 1995). Again, Harvey recognized these concepts without the benefit of modern research.

4.2.4. Realistic job previews

When a new Harvey Girl signed a contract with the Harvey Company, she was assigned to a Harvey House for one month of training. During that time, she worked long hours under the tutelage of a head waitress and received no pay. She was given room and board, however. The training month gave her an opportunity to see if she could withstand the rigors of the job, cope with being far away from her family, and adapt to the communal lifestyle in the dormitory. “The rigors of the training program were meant to scare off the timid women and flush out those who could not carry their own weight in the house.” (Poling-Kempes, p. 90)

Harvey’s training system was what we would now call a realistic job preview or RJP (see Premack and Wanous (1985) for a meta-analytic perspective). RJP’s have been shown to have significantly positive effects on employee retention. Although the concept had not been addressed in the literature of the late 1800s, Fred Harvey was certainly a pioneer in demonstrating the effectiveness of RJP’s.

4.2.5. Opportunities for advancement

In an era when there were few opportunities for women to advance in business, Fred Harvey offered the Harvey girls (and his other employees) the promise of promotion from within the organization. For example, a Harvey girl could become a head waitress, or even a Harvey House manager. Although Harvey’s affirmative action statistics might not hold up under the scrutiny of today’s standards, they were far ahead of their time. All of Harvey’s employees knew their continued employment offered potential for better things, and this was undoubtedly another linchpin in the loyalty he inspired.

³ Here, ‘his’ refers to the employee’s salary, not Fred Harvey’s.

4.2.6. Adaptability to meet employee needs

We have addressed the emphasis Mr. Harvey placed on strictly-followed operating procedures. However, we also have indicated that he was open to adjusting the system over time, and to the needs of a particular location. This was true with respect to his human resource practices, with the decision to hire women as waitresses (suggested by a house manager) as a prime example. Moreover, although, as noted, he generally insisted on six-to-nine month contracts for Harvey girls, he made exceptions for farm girls who needed to return home during the harvest season (see Poling-Kempes and Ross, 1994, 1997, for typical Harvey girl employment histories). And, he cleverly filled their stations with school teachers during those summer months. These women felt grateful for the flexibility they had been afforded, and they often returned for additional seasonal work (Poling-Kempes, 1991). At the Grand Canyon, there was an uproar among employees about Harvey's 'no dating other employees' rule—in such a remote location, whom would they date? In another example of his latitude, Harvey rescinded the rule at that location in order to retain his valued employees (Poling-Kempes, 1991). In sum, Fred Harvey had his rules, but he adapted them in the interest of employee satisfaction and retention.

4.3. Performance measurement

Heskett et al. (1994) report that the most successful service providers have formal systems for measuring both customer satisfaction and several other key performance indicators representing links in the *service profit chain*. These include employee turnover, employee productivity, customer loyalty, employee satisfaction, customer satisfaction, service recovery capacity, quality, and other key metrics. This practice fits the adage "If you want something, measure it," and a vast body of literature on goal setting offers empirical support for the idea (Locke and Latham, 2002).

Of course, Fred Harvey did not apply the sophisticated measurement systems made possible by today's technologies. However, we have found clear evidence that Harvey employed a system of measurement that was impressive for its day. It offers a model we can appreciate in the current era. There were no surveys, no real-time point-of-sale data collections, no electronic spreadsheets comparing sales across Harvey Houses, no ERP systems, no 360° feedback. Harvey simply knew what was important, communicated it to his employees, and kept track of it conscientiously. Today, we recognize the value of clear, challenging, and measurable goals as

effective motivational tools (Steers et al., 2004), but this is another area where Harvey was ahead of his time. Harvey and the offspring who followed him embedded their measurement system and underlying goal setting into the culture of the organization.

A cornerstone of Fred Harvey's measurement system was probably the first recorded instance of mystery shopping. He regularly visited Harvey Houses, often entering in disguise, to determine if the service level and food met prescribed standards (Poling-Kempes, 1991). After receiving and assessing the service, he would reveal his identity and begin an in-depth inspection of the kitchen, staff uniforms (e.g., skirts of waitresses had to be exactly eight inches from the floor), and accounting records. In the early days, he was known to yank the table cloth from under an improper table setting, toss chipped china across the room, or explode at the sight of pre-squeezed orange juice stored in a cooler (it was always to be freshly squeezed in response to a customer order). In later years, Mr. Harvey mellowed in his approach to mystery shopping, dropping the disguises and enlisting a larger team of supervisors to assist him in the auditing process. Unlike McDonald's, which abandoned mystery shopping for several years only to re-institute it recently (Grainger, 2003, p. 125), Harvey seemed to recognize intuitively that "the health of the entire system relies on constant, baby-step improvements in store performance" and that individual restaurants within the system should not be "left to police themselves."

4.4. Other links in the chain

Operating standards were not Harvey's only concern, however, and it seems evident that he also paid attention to other links in the *service profit chain*, even though he did not have a formal system for doing so. For one thing, he recognized that customer loyalty was essential. He knew delighted customers in Topeka would feel more compelled to dine at the Harvey Houses in Amarillo, Santa Fe, and Barstow. Moreover, he hoped they would return for more westward travel in the future. (Research indicates that companies can increase profits from 25 to 85% just by retaining an additional 5% of their customers (Reichheld and Sasser, 1990)). One story offers insight about his commitment to the customer: when a guest sent a complaint letter about a Harvey House manager who had treated him rudely, Harvey contacted the manager to inquire about the matter. When the manager expressed a feeling of justification because he thought the customer was a 'crank,' Harvey responded by informing him that it was his job to serve

and please just this sort of customer (Poling-Kempes, 1991).

So, in Fred Harvey we see an iconic and visionary leader who was fully aware of the operational details of a geographically-dispersed service system. This required a broad perspective, keen intelligence, and the ability to hold details in one's head. Recent research has demonstrated the antecedent role that service leadership plays in creating a positive service climate (Schneider et al., 2005). Again, Harvey knew this before legions of academicians proved it true.

4.5. Profitability

The *service profit chain* contends that when all the prior linkages are in place (see Fig. 1) the end result is sustained profitability. The bottom line for Harvey's operations strategy and service delivery system was, indeed, impressive for its day. Although historians have found limited financial details of the Fred Harvey family enterprises in the 1800s, Armstrong (2000) uncovered accounting records reporting net profits of \$85,776.97 for 1886. In today's dollars, this would be equivalent to \$1,758,945.10, assuming an average annual inflation rate of 0.025729.⁴ This is a respectable sum, especially if we consider that it is net of taxes, as well as salaries for Harvey family members and all other employees.

4.6. Harvey system summary

More than 100 years before the publication of the *service profit chain*, Fred Harvey was putting into practice the key linkages described in this "modern" model. He began with a clear service concept and well-defined market segment, and then developed and finely tuned an operating system focused on achieving market success. He possessed the iconic, legendary leadership often attributed to latter-day giants such as Sam Walton, Herb Kelleher, Ray Kroc and Walt Disney. Harvey's exemplary human resource policies, coupled with workplace routines and job designs that fully exploited the power of standard operations, contributed to high internal service quality. These in turn contributed to employee satisfaction, retention and productivity. The result for the customer was a fine dining experience in record time, something no one else in the train-travel market was able to deliver. Customers were highly

satisfied and returned time and again to Harvey Houses. The financial results, as noted above, were impressive. More compelling, however, is the fact that Harvey's empire stood the test of time, operating successfully for over 50 years.

4.7. Harvey postscript

It was not until the advent of automobile travel in the 1930s, coupled with the introduction of faster, more luxurious trains requiring fewer stops, that Harvey House restaurants closed in smaller towns. Those in larger towns remained and were frequented by car travelers. But, without the predictable, consistent supply of passengers the trains had provided, most Harvey Houses did not have the volume to sustain operating profits. The Harvey Company did continue operating some dining cars for the Pullman Company (Welsch and Howes, 2004), but this business declined, as well, with the demise of train ridership.

Harvey Houses enjoyed a brief revival during World War II when train travel was the primary mechanism for transporting troops—many closed Harvey Houses were reopened and became mess halls for the troops traveling the ATSF. However, the loss of many Harvey employees to the war effort, and the disruption in supplies brought about by the war, left "Harvey a fragmented system where the standards and quality of food and personnel fluctuated from house to house" (Poling-Kempes, 1991). After World War II, automobile and plane travel had so replaced train travel, that, by the end of 1948, all but a handful of Harvey Houses had closed permanently.

Like so many successful business models, the Harvey system for delivering food to train passengers had its time and place. One might surmise that had Fred Harvey still been alive, he might have transferred his genius to another business, viable in the current era. His heirs were good at carrying on his vision and standards, but perhaps not as effective in seeing new possibilities.

5. Closing thoughts

So what has our exploration of the Harvey operating system revealed? First, here is an example in which many "advanced" concepts in operations, service, and human resource management were used effectively over 100 years ago. This suggests that the practices operations and service marketing scholars advocate in the current era have enduring value. This exploration also underscores the importance of employing archeological benchmark-

⁴ $\$87,776.97 \times [(1 + 0.025729)^{118}] = \$1,758,945.10$, based on the average consumer price index over 118 years.

ing to revisit historical best practices in the hope of gaining further insights into what might be done today.

One also wonders how our field might have evolved had Harvey's way been more widely disseminated at the time. On the other hand, it is possible that Harvey's innovations have had a greater influence than is currently believed. Perhaps Frederick Taylor and Henry Ford (maybe even Walt Disney) traveled the ATSF, eating along the way at Harvey House restaurants, and observing the highly efficient meal service operations. It may well be that we owe more than we think to Fred Harvey.

One also wonders what other unsung operations heroines and heroes are out there—or what undiscovered operations innovators are among us today. Advances in technology and the presence of many curious and observant operations aficionados would certainly make it less likely that an innovator of Fred Harvey's stature would go unnoticed. However, a recommendation for both constant vigilance and attention to contemporary operational innovation, as well as looking to the past, seems well warranted.

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