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Donatus Pharmacy:

Personnel Scheduling With Employee Preferences

Christoph Haehling Von Lanzenauer and Olaf Pohl wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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It was a late Sunday afternoon in March 2017. Exhausted from a demanding three-day conference and a last-minute race to the train station, Karl Schulte, owner and operator of Donatus Apotheke (Donatus Pharmacy) sunk into the chair of the Intercity-Express train bringing him back to Berlin, Germany. While listening to his favourite composer’s second piano concerto, he could not help reviewing some of the concepts and ideas he was exposed to at the conference. The overall theme of the conference pertained to opportunities for improving operations in the competitive and dynamic service industry. While not all topics were of immediate relevance to pharmacies, the material presented on human resources (HR) planning had piqued Schulte’s interest: in particular, the flexibility resulting from staggering work-break times, the possibility of moving the start and end times of an employee’s shift, the restrictions resulting from attempting to observe the employees’ preferred work schedules, the number of weekly working hours for each employee, and the ideal mix of full- and part-time employees - just to name a few. These issues were presented as opportunities that could help to avoid, or at least to reduce, any mismatch between the required personnel hours and the hours available from the pool of employees. The potential for significant performance improvements - as indicated by the conference speakers and confirmed by some participants in the audience - was indeed impressive. Because labour costs represented a large percentage of the Donatus Pharmacy’s total expenses, a more efficient use of personnel could improve the pharmacy’s overall performance. Schulte also knew that one of his pharmacists would be retiring in late 2017; therefore, the search for a replacement had to begin soon. Determining the corner points of the employment contract for a new pharmacist could be an opportunity to use some of the ideas from the conference. Schulte started to make notes in preparation for a discussion with the person responsible for HR management.

**BACKGROUND**

Pharmacies, an integral part of the German health care system, were generally family-owned businesses with long traditions - some going back several hundred years. The owner of a pharmacy was required to be a licensed pharmacist. The operation of pharmacies was strictly controlled by several laws and regulations: These were put in place to protect the public, but they also restricted the owner in managing the pharmacy. In particular, regulations regarding communication policy, price management, and incentive- and loyalty programs were unaccommodating.

In early 2017, about 20,000 pharmacies existed in Germany, a country with a population of nearly 82.5 million. Pharmacies had, on average, about eight employees. Total sales were generated from prescription medicine (80 per cent), free pharmaceuticals (10 per cent), and other over-the-counter (OTC) products (10 per cent).[[1]](#footnote-1) Although a pharmacy’s primary activity was serving customers with ready-made medicine (with or without prescription) and OTC products, a pharmacy also had to prepare formulations (i.e., customize medication as per a doctor’s prescription). Naturally, administrative, financial, and several other back office duties, including the management of inventories, also had to be performed.

The economic environment of pharmacies in Germany was characterized by a rather high density of pharmacies (about one pharmacy for every 4,100 people). This environment had become more competitive due to the emergence of online services. These online services offered discounts of up to 50 per cent for OTC products. Pharmacies experienced intense price competition and faced a trend from a geographically limited market towards a potential clientele of regional or, sometimes, international customers. As a result of this development, in-store service with a personal touch (i.e., individual counselling, demonstration and explanation of products, little or no waiting time, and same-day home delivery) had become a key factor in competing with the online services.

**THE DONATUS PHARMACY**

The Donatus Pharmacy, one of about 830 pharmacies in Berlin, was located in a medium-sized mall. The area surrounding the mall was a mixture of office towers and residential buildings, which were served by the public transit system. The mall had about 42 stores and services distributed over two floors. The Donatus Pharmacy, located on the street level, consisted of a sales floor, several offices in the back, storage space, and rest and recreational areas for the employees. The sales floor was divided into two major sections: a long counter for dispensing prescription medicine, with eight cash registers, made up one side; the other side consisted of several shelves displaying OTC items such as health and cosmetic products as well as sanitary items and dietary supplements.

**Opening Hours**

The pharmacy was open to the public Monday to Friday, 8:30 to 21:00, and Saturday, 9:00 to 21:00, and was closed on Sundays. One staff member, however, had to arrive at the pharmacy 30 minutes prior to opening. Furthermore, the city of Berlin permitted Sunday shopping from 13:00 to 18:00 on eight Sundays throughout the year. Sunday shopping generally coincided with weekends when major conventions or sporting events were hosted and also occurred on two Sundays during the pre-Christmas shopping season. Shopping mall management required all stores and services to open on these Sundays. In the Donatus Pharmacy, employees scheduled on Sundays received double time.

To ensure life-saving medication was available to the public at all times, emergency-service shifts were assigned on a rotating basis among all pharmacies within each city district. On an annual basis in the autumn, each pharmacy was informed of the dates they were required to be open for emergency service. In 2017, the Donatus Pharmacy was responsible for 13 emergency-service shifts, two of which were scheduled on Sundays. An emergency-service shift was defined as a 24-hour service beginning at 9:00 in the morning and ending at 9:00 the next day. While personnel had to be scheduled from 9:00 for an emergency-service shift on a Sunday, the emergency-service shifts on weekdays only required special staffing from 21:00. The Saturday emergency-service shift ended at 9:00 the next morning. Any other emergency-service shift required staffing until the pharmacy’s opening hour the following day. Although more than one pharmacist could be assigned to an emergency-service shift, only one person would be on duty at a time.

**Projections of Personnel Requirements**

Customers visited a pharmacy in order to obtain medical products (with or without prescription) and/or to purchase other items (e.g., cosmetics or hygiene products). Based on several years of observations, customer arrival times on weekdays followed a general pattern: While only a few customers arrived early in the day, the numbers grew quickly and fluctuated at that level throughout most of the day before dropping off during the last two hours before closing. In spite of this general pattern, actual arrival times - as in most service firms - were random. The details of all customer visits were recorded by the cash registers. On the basis of this data, and using a software program from a firm specializing in information processing for pharmacies, the arrival pattern of customers for 30-minute intervals during the pharmacy’s opening hours (including Sunday shopping) was forecasted. Using the average time in serving a customer, it was possible to determine the expected number of employees needed on duty. Without presenting the technical details of this process, experience had shown that the projected number of employees to be on duty resulted in minimal or no customer wait times. These projections are presented in Exhibit 1 for the calendar weeks 8–11 in 2017, including the Sunday shopping in calendar week 9.

In addition to the requirements given in Exhibit 1, typically six to eight prescriptions for customized medication were also received daily. To service these requests, including the necessary laboratory tests, it was standard practice to allocate five working hours to this service each day (Monday to Friday). Furthermore, regular office activities had to be performed by pharmacists. Five hours per week were assigned to this task.

**Pool of Employees**

The personnel at the Donatus Pharmacy was composed of three categories: pharmacists, pharmaceutical technicians (PTAs), and pharmaceutical business employees (PKAs).

To facilitate smooth operations, a sufficient number of employees in each category had to be available during the opening hours and the emergency-service shifts.

In addition to Schulte, who was a licensed pharmacist, the Donatus Pharmacy currently employed six pharmacists, 10 PTAs, and five PKAs. While the pharmacists and the PTAs could serve customers requiring prescription medication and OTC products, the PKAs duties were restricted to back office and storage activities. Because these responsibilities were carried out without customer interaction, scheduling the PKAs was easy and did not seem to carry much potential for improving efficiency. Thus, Schulte decided to exclude the PKAs in his deliberations. With 21 employees the Donatus Pharmacy represented a large pharmacy within the German context.

The number of working hours per week were specified in an employee’s work contract. The attendance times were jointly developed by both the employer and employee, considering the operating conditions of the pharmacy and reflecting the employee’s personal preferences. The contract hours and the preferred attendance times, including the resulting working hours in each week and the normal break times (indicated in parentheses), are given in Exhibit 2. Because Pharmacists 5 and 6 as well as PTA 10 were part-time employees, they could not be assigned to the emergency-service shift and to Sunday shopping. The shaded areas in Exhibit 2 indicate employee vacation time. The pattern of attendance times was repeated every four weeks and remained reasonably stable over time.

For about half of the employees, the weekly working hours varied over the four-week period. Furthermore, for some employees, the weekly working hours - averaged over four weeks - were somewhat lower than the contract working hours. The purpose of this deviation was to build a capacity reserve for other four-week intervals when employees would either be off due to sick leave or on vacation. Naturally, the actual working hours had to be recorded in their individual work-time accounts. Employees were entitled to five weeks of vacation.

Schulte, the owner of the pharmacy, was typically on location Monday to Friday, between 10:00 and 19:00. Although he was primarily occupied with administrative and management tasks, he would, as needed, help to serve customers in order to avoid undue waiting, but he would not be scheduled for preparing formulations or regular office activities.

**Legal Requirements and Labour Laws**

The most important aspect of the laws and regulations governing the operation of pharmacies was that at least one pharmacist had to be on location during the opening hours of a pharmacy and during the emergency-service shifts. If this requirement could not be met otherwise, Schulte was prepared to modify his typical presence in the pharmacy.

No work breaks were given for daily working hours of six hours or less. An employee was entitled to a half-hour work break with daily working hours of more than six but less than eight hours. For daily working hours of eight or more hours, the work-break duration had to be one full hour. The rules for work breaks used at the Donatus Pharmacy were well in line with the prevailing labour laws. Work breaks had to be scheduled such that the number of working hours before and after a break would not exceed six hours. Nevertheless, minor deviations did exist as a result of an employee’s personal request (e.g., Pharmacist 3 or PTA 7, see Exhibit 2).

Because customer arrivals during emergency-service shifts occurred only intermittently, work breaks were not scheduled during these shifts. For the purpose of their work-time accounts, the hours from 21:00 to 22:00 and from 6:00 to 9:00 would count as single working hours, and the time from 22:00 to 6:00 was defined as six working hours, with two hours of unscheduled work breaks. Employees assigned to an emergency-service shift could not be on duty during the regular opening hours on the days the emergency-service shift started and ended, respectively.

**Scheduling of Employees**

The personnel plans for a four-week period were developed several weeks in advance. This task was the responsibility of a semi-retired staff member. With her intimate knowledge of the employees’ characteristics and their tolerance for change, and assisted by a software platform provided by the information-processing firm that prepared the projections of the personnel requirements, the semi-retired person used the attendance and work-break times as the first step in generating an overall personnel plan (see Exhibit 2). Assignments for work on Saturdays, the emergency-service shifts, and Sunday shopping were attempted in such a way that all employees were treated equitably. Based on experience, several adjustments were necessary before an “acceptable” personnel plan emerged. This personnel plan was then posted to provide the employees with the opportunity to review and possibly request changes. Generally, these personnel plans were well received and most of the time could be implemented without major changes. Of course, occasional ad hoc adjustments were necessary when a scheduled employee called in sick.

**THE CURRENT SITUATION**

Although he respected the competence of the semi-retired employee, Schulte hoped that the process of developing personnel schedules could be assisted by some of the concepts presented in the recent conference. In particular, a new and different approach might not only lead to “better” personnel plans but could also be used in determining desirable parameters of existing and future employment contracts. While this possibility could be tested when replacing Pharmacist 1, who would be leaving late 2017, Schulte also knew that the market for hiring pharmacists and PTAs was tight. This market condition gave potential employees a strong position in negotiating the terms of employment.

**EXHIBIT 1: Projections of Expected Personnel Requirements for In-store Customer Service**

 

**EXHIBIT 1: (continued)**

 

Source: Authors’ creation.

**EXHIBIT 2: Preferred Attendance Times**









**EXHIBIT 2 (continued)**









**EXHIBIT 2 (continued)**









**EXHIBIT 2 (continued)**









Notes: Times in parentheses indicate break times. Shaded areas indicate employee vacation time.

Source: Authors’ creation.

1. Federation of German Pharmacist Associations, *The Pharmacy—Figures, Data, Facts 2017* [in German], 2018, accessed January 2018, https://www.abda.de/fileadmin/assets/ZDF/ZDF\_2017/ABDA\_ZDF\_2017\_Brosch.pdf. [↑](#footnote-ref-1)