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Belmont University Facilities Management Study

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## **Section 1: Process Operational Analysis**

### Introduction

The company I chose is Belmont University Facilities Management Services (FMS). Operationally, this segment of Belmont is responsible for keeping our campus running. Work orders are submitted over the phone and through an online database. It is expected and some of the key success factors are that the work orders are completed within several days of the submission, and that the work completed is quality so that the problem is fixed for good.

From personal experience, I have been a frequent submitter of FMS work orders. When moving into my unit in the Hillside Apartment complex, I submitted 11 work orders for various problems during our move in day. Throughout the semester, other issues have needed resolving as well, so it is safe to say that the process is familiar. I have dealt with washer and dryer issues, sink malfunction, drain clogs, insects upon insects, burnt bulbs, fire hazard drying machines, clogged air filters, electrical hazards, desk repairs, and more. The FMS team (for the most part) has solved all the issues I have thrown their way, but not without some bumps in the road. The department has areas for improvement

### Process Issue/Problem/Constraint Identification

The purpose of the process identified is to solve issues on campus. Whether a lightbulb needs replacement, or there is a major leak and apartments are flooded, Belmont FMS is the one to call. The purpose of FMS to Belmont University is to have a team on call to fix the various structural and mechanical issues on campus. They keep this campus running as well as solve various problems within the residence life community. The limiting process is that there are only so many FMS employees and there are thousands of students, hundreds of classrooms, and a bunch of buildings where parts fall apart, break, and need repairs.

Bottlenecks in the FMS sector of Belmont are that there are less employees than problems to solve. With this, there can become quite a large queue of issues to fix and only so many people capable of fixing them. This causes longer wait times, and the department to pick and choose what issues are most pressing. Another bottleneck could be that there are some things that the FMS team is just not trained to do. For example, this summer I accidentally shut down the elevator in Horrell dorms. Even though we reported to FMS the elevator issue was out of their scope of work (especially since it was the weekend and there was one FMS member on shift). They had to outsource to their elevator repair company on call and get one of their repairmen on campus so solve the elevator issue. The costs involved with FMS repairs is labor, overhead of the office and warehouse space they use, as well as the money spent on replacement parts and tools used to complete the jobs.

### Recommendations for Improvement

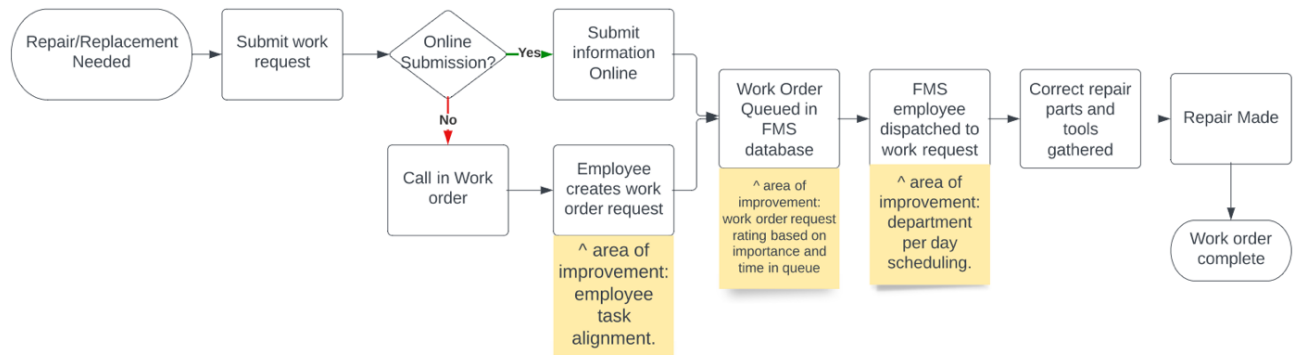
There are a variety of ways to improve the FMS operations (from my personal experience).

- 1) Request rating scale: It would be to have a designated employee rank the importance of incoming requests. The need for bug traps and the need for a washer or dryer repair have much different levels of intensity. A factor rating scale in combination of when a work order is submitted would be beneficial to their department to determine what issues are pressing for attention. One pro to this is that higher importance requests will be filtered

and queued for sooner repair. A con to this is that it is another task for an employee to sort through incoming requests, or have a system automatically sort for the department which could lead to error or rankings not accurate to the current need.

- 2) **Employee & Task Alignment:** Another recommendation would be to give more well-rounded employees the more difficult FMS requests and give beginners the more basic tasks. By separating the level of employee by the level of task, there should be more alignment of the outcome quality of the task.
- 3) **Department per Day Schedule:** Another possible solution would be to have designated days of the week where the FMS team is repairing on-campus residential housing issues one day, and other on campus facility issues on other days. By doing this, it would ensure that all residential issues would be handled on a particular day of the week, meanwhile on campus repairs would happen on other days. This would ensure a high level of customer service was achieved. The department could promise that each week, the issues will be handled appropriately and at the absolute maximum, it would take a week to get your issue resolved.

## Section 2: Process Flow Map



## Section 3: Process Questions to Assist with Analysis

**What the Customer Needs:** The customer needs timely, quality problem solving skills that are beyond their own capacity. The operations necessary are the gathering of data for the work order, queueing appropriate work orders to qualified technicians, and eventually the completion of the various work orders. The only specific area qualified for simplification would be the queueing and assigning of work orders to various technicians. If this could be done by an algorithm, that would free up time for other efforts.

**Who is Performing the Job:** Belmont University FMS employees are completing the work orders as they come through the department. On occasion, work orders need more skilled technicians, and the department will outsource labor from other specialized companies. The best way to use less skill or labor with the FMS efforts is to strategically schedule more advanced technicians for the difficult issues that need more notice in advance for repair. Meanwhile, utilizing beginner technicians for more basic jobs would utilize employee skills and minimize labor costs.

**Where Operations are Conducted:** The Belmont University campus is the home for all operations done by FMS. This does include off-site locations such as E.S. Rose Park. FMS repairs

dormitories, academic halls, multi-use spaces, the cafeteria, offices, and outdoor areas. The layout cannot be improved because the campus cannot be changed. Due to FMS's widespread skills and their responsibility to serve the entire campus, the department must adapt to the changing campus by upgrading their vans, tools, and operational flows.

When Each Operation is Conducted: FMS operations are conducted daily.

How the Operations are Done: FMS uses a work order submission database. After submissions are completed, the FMS team can align the correct jobs together and assign them to the qualified technicians.

Flow: There can be a bottleneck with an increase in work orders and limited numbers of technicians. Especially at the beginning of semesters when everyone is back on campus and noticing the issues with their offices, classrooms, and residential areas. From personal experience, my 11 work orders took about 2 weeks to be completed. The more important issues were resolved first, but light bulb replacements had to wait until the influx of work orders were completed.

Time: There is no guaranteed resolution timeline for FMS solutions. However, among the Belmont University campus, they are known to get issues resolved within a week. There are more complex situations, yet the department does their best to service issues. There can be excessive waiting times if the necessary parts are not readily available on campus. From personal experience, when our washing machine completely broke, it took a little over a week to get a new unit because none were readily available on campus and the FMS team had to source a washer off campus.

Quantity: The FMS department is responsible for the work orders that are submitted. This demand shall we say can change throughout the time of you. AC units are more likely to need repair in the summer when they are used more, drains get clogged about halfway through the semester, and so forth. The timing of events and the school year impacts the work order intake. It is safe to say that with many buildings on campus, residential communities, and facilities that constantly need repairs, the FMS team is never bored.

Quality: The quality of Belmont Facilities Management Services repairs is high. They are well versed and trained with the various issues that arise on campus. If a project requires a more detailed team, there are off-site teams that can assist.

Cost: FMS services are free of cost for residential students. It is an included service within their annual tuition, room & board, and fees. Because of this, the department must forecast their expenses and labor costs for the year to ensure that they are adequately funded for the year.