

Relational Database Solution and Justification

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Our company is in dire need of an upgrade. Far too much time is wasted looking up old records for filing taxes and too many errors are made when updating records. Regarding the necessary innovation of the company's filing system, reviewing the current antiquated methods for storing transactional data and adopting a database management system will have a significant impact in increasing its efficiency as has been done in other companies.

Currently, when a customer makes a purchase, the transaction data is recorded in our paper-based ledgers. This transaction data includes the date, teller's name, phone number, stickers purchased, quantity, and price. The customer's name, address, phone number, and payment information are also included. When a customer or employee updates their information, this information is only reflected in newly entered data, leading to inconsistencies. Also, if the information is not changed, then information that already exists within our records is being duplicated again and again. All of these issues can be reduced, if not eliminated, by adopting a database management system.

Adopting a database management system will allow employees to fill out a digital form to enter the transaction data. Employee data and returning customer data will not have to be input again, because it can be looked up and included in the form. If either the employee's or the customer's information needs to be updated, it only needs to be updated in one location and changes will be reflected everywhere. When it comes time to file taxes, we will be able to generate a report, or statement, for the entire year, with the most up-to-date information, as well as subtotals and totals.

Implementing this change would not be too difficult. We would be able to use Microsoft Access, which comes included in the version of Microsoft Office we are already using. If we set

up an empty database before the beginning of the year, we would be able to start the year off with a new database system, reducing how much information would need to be input to be ready for this year's tax filing. The initial setup could take some time, as we need to enter our entire inventory, though this could be done as transactions are completed.

Another benefit of switching to a database management system is deployability. We could take advantage of having a database system to set up a website and expand our customer base to the digital world. If our inventory changes, it would be instantly reflected on the website. Of course, this would require many more changes not covered in this proposal, but the database would provide a firm foundation if such a venture was desired.

Database management systems are also scalable. Walmart, which has over 5,000 stores, uses a database management system run by Cognigent (Walmart and Cognigent, 2017), who states they support, "physical stores, online shopping and mobile commerce, all sharing information in near real time, even during peak transaction levels around Black Friday." The Korea Research Institute for Human Settlements (2007) also reports that the Republic of Korea has been using a database system since 1995, which has been growing ever since.

By adopting a database management system, we will reduce clerical errors, increase efficiency, and reduce data duplication. Customers will also be able to update any part of their information without much hassle. Since the system is digital, the information can be easily stored for the foreseeable future, let alone the measly five-year period required by our record-keeping policy. I hope you sincerely consider this proposal for the benefit of the company.

References

- Korea Research Institute for Human Settlements. (2007). *Special Report: Establishment of National GIS of Korea* [PDF]. Anyang: Korea Research Institute for Human Settlements.
- Walmart and Cognitect. (2017). Retrieved March 26, 2021, from <https://www.cognitect.com/walmart-case-study.html>