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System and anylais and design

# Abstract

The front sales department is used to prepare daily reports for the account section, they do this by retrieving the delivery note and yellow invoice from the despatch team these are used to make the shop delivery valuation and day book listing. This is done with a tally kept track by each of the front sales staff. The shop delivery valuation and daybook listings are combined with the delivery note and invoice to calculate the shop delivery valuation and day book listing.

# Introduction

This report will look at J. B. & D. I. Barden Ltd and its current system for baking, delivering and monitoring the production of all the systems and the baking of the company's products. This report will discuss the existing system and what J. B. & D. I. Barden Ltd currently do to meet customer demands and make a profit for their company. This report will then discuss the problems with this existing system.

This report will then go on to discuss the new requirements for the new system. The new system’s recommendations should take into account all the findings of the interviews and the report about the company. The final section will be the recommendations for J. B. & D. I. Barden which will take into account the rest of this report and also any other findings to suggest the best possible solution to their current problems.

# Definition of the Existing System

The front sales staff then file the invoice and delivery note into a binder, these binders are paper biased and do not have any backups and could be easily lost and misplaced by a member of staff.

The front sales staff are also in charge of the maintenance of Microbake files. These files contain the information on customers as well as a product list. The files need to be constantly updated with new customer information and product lists and almost every section of the business uses these files.

The front sales staff need to send the despatch team the printed customer filefrom the Microbake Customer File list. This file is also used to for preparing the daily orders for production and despatch as well as to prepare the daily reports.

Any products changes by the bakery are relayed to the front sales staff here and the existing recipes are updated to reflect these changes. The same goes for the accounts section updating the customer files, the front staff must make changes into the system. If one section of the business does not inform the front sales staff of changes this means that the main records could be out of date and cause problems.

The front sales staff here are also in charge of sending a printed list of products out to customers whose addresses comes from the accounts section. The front sales staff gets this from a customer and product note, which they send back to the accounts section once the required files are sent to the customer.

The front sales staff here are in charge of getting the order and dispatch information and sending it to the correct place.

Firstly they call up each customer and get their order, they file these into invoices and a delivery note and file these into binders. They also get this information and combine it into a production list for both bakery’s and send the files to them for production. The front sales staff get the customer phone numbers from the Microbake files.

If the customer calls with a late order or amendment these are handed the same way then sent to the bakeries. These late orders are commonly placed on the top of the production lists and therefore done first.

The front sales staff also get the information of the products ready for production from the Microbake files. These production lists can be used for when a customer phones with an order to ensure they order the correct thing and that the bakeries are only making products from a known list of items.

The final job of the front sales staff is to send the delivery notes invoices and late order amendments through to the despatch team. To do this one of the staff places the files into the order in tray later accessed by a member of the despatch team.

The Despatch team then prepare routes and assemble orders, they do this by using the delivery note from the order in tray. This delivery note has the destination of the order on it as well as what the order contains. Using the printed customer file and the invoices from the order in tray they retrieve the customer details and create a set of invoices. These invoices and delivery notes are taken with the driver to the destination, be it an own shop or a wholesale customer. If the driver makes any additional sales while delivering the goods these will be amended to the delivery note or yellow invoice. The driver will take these and any payment back to the despatch office, from there the despatch team send the payment to the accounts and the invoice and delivery note to the front sales staff for them to prepare the accounts.

(University Of Bolton, 2015)

# User catalogue

**Front sales**

Have read access to product list.

Be able to create, read and update customers on the customer list as they take information from customers.

Be able to create, read, update and delete orders on the order list as customers may ring up with additional order information.

**Despatch**

Have read access to the customer list in order to know where the customer address is.

Have read access to the orders to know which customer ordered what.

**Accounts:**

Have read and write accesses to finance list to know how much money

Have read access to staff list.

**Production**

Be able to be read, create and update and products on the product list.

**Management**

Have complete access to everything to oversee the business.

# The Problems

One of the problems we found with the current system is that weekly orders can be forgotten about. Staff only have telephones to take orders, as a result the order process can be quite slow as telephones take up a lot of time, both retrieving the phone number from microbake and obtaining the order. This means that in the long the run they could be potentially losing orders due to timing.

We have found that the front sales staff get paid by commission meaning that they could be making up orders in order to earn more money for themselves. Additionally there is no way of checking if these are actual orders, meaning that the accounts section assume that the front sales get paid the right amount meaning that if the front sales staff are making up sales the business can lose profits as they are not actually making the money that they think they are.

If a customer rings up with an update to an existing order there is no way of changing their original order, meaning that the front sales staff will have to make up a new account for them. This means that it is harder to tell if a customer owes money and could cost the business due to lost revenue.

There is no route planning meaning that if the drivers get lost there have to stop to ring up the office to ask directions, this can hold the drivers up, this means that they can lose time and therefore lose money as time is money.

Late orders get done first as they get put on the top of the order list (or pile of orders) this means that they take priority when the earlier orders should take a priority. They also go onto the van last or on a separate van if the first van has already departed, meaning that they can get delivered first when it should really be the other way around.[interview with S.parker]

S. Packer does not have any information about the vans such as MOT and other important files about the vans, not knowing about these can cause the business to lose a lot of money through unnecessary maintenance and downtime.

there is no feedback loop form the wholesales customers to the company meaning that if there is a problem it is very hard for the customer to inform the company about the situation.

the system seems to almost completely paper based, resulting in time consummation, additionally it is harder to back up meaning that files could be lost and they find the information again.

Front sales do not have access to their own computers. They have to enter it all on one computer and this could slow things down as they could be a lot of customers making orders .

the group interview with a member of staff relieved that the own shops are taken as a priority and given special treatment over the the wholesale shops for example if one of their own shops rings up and says they want one thing that would be done first overall several things that a wholesales shops wants, this can be cost effective as it should really handling the bigger orders first to ensure that they are done in time.

(Parker , 2015)

(Nightingale, 2015)

the Drivers have to amend the the invoices by hand. this is a problem because it takes up time and there handwriting may be able to read meaning mistakes can be makkeng

# New Requirements

One improvement that the bakery could benefit from is the addition of end-to-end computerisation, from the initial order to the delivery. One reason for this is that order based manufacturing, that is when production is reactive rather than proactive, which is what J.B. & D.I. Barden Ltd. (the company) specialise in. ‘computing the opportunity cost and the optimal schedule is a computationally hard problem’ (O Brien, John; Sivaramakrishnan, K. 1996), which therefore makes a computer system ideal for organising production based on orders.

Additionally interviews with staff members revealed that over and under production was rife because of how production was handled, as an almost entirely paper based system lacks timely reporting and analysis tools to ensure increased efficiency. A computerised system allows for this kind of analysis and reporting which should improve the bakery’s operations.

A computerised delivery system also allows for increased efficiency, there are many mapping systems on the market which help plan routes to be as efficient as possible, potentially reducing the number of vans delivering and improving turn around by reducing the amount of work to create the routes for delivery, thereby reducing costs and increasing customer satisfaction.  ‘Routeing and scheduling have received the greatest attention of all the different areas of logistics from researchers and academicians’ (Haley, George T.; Krishnan R., 1995) this means that logistics handling should be the most well developed computerised system, and be useable ‘off the shelf’.As an addendum to the above having electronic delivery notes and invoices will improve productivity by removing the chance of illegible handwriting, particularly when manually amending orders should a customer request other products, it also means it is easier to track inventory during delivery.

Logically following from this, if the bakery is computerised then having a website and front facing ordering system would be an important and useful addition to the company, Robert Keet, M.D. estimated that ‘labs can expect to reduce costs from improperly coded or incomplete orders, which can account for up to 8% of revenues.’ (Business Wire, 1999), from using an online ordering system for medical supplies, which are ordered on an ‘as needed’ basis similar to the bakery’s Cakes and Specials Division, and can also be extended to the Bread and Morning Goods division, whether this will save 8% of revenue is unknown, however it will reduce the amount of time front sales staff spend phoning up the wholesalers and shops to get orders, as this can be done online, this saves time and could reduce the phone bill by a small amount, and leave more time for the front sales staff to do other parts of their jobs, such as handling customer complaints.

This website should be developed and hosted by a third party, as the company does not have many tech literate employees and the training would be redundant given that corporate websites of this kind can be easily developed by outside developers. Adding to this, having a web presence allows for increased exposure of the brand which could improve customer numbers.

A wholly computerised bakery system will require computers for all staff who need to access the system, to this end every member of the front sales staff should have a computer of their own, as should all managers, and two or three computers for despatch, along with the computers that any machinery will require, these should be bought in one order form a large computer vendor, for example Dell or HP, along with a support package and preventative maintenance contract, this allows the company to take advantage of computerisation while requiring a smaller on site tech team, which allows the maximum additional efficiency and minimal additional expenditure.

A wholly computerised bakery will also need an independent off site backup of all information stored, so that in the event of computer failure, only a limited amount of information is lost, similar to the above a third party should be contracted to perform this, as the company lacks the resources and knowledge to do this successfully.

A requirements that is already have implemented is a feedback loop for orders, while the company’s own shops take the delivery note and send it back with the amendments, wholesale customers do not and this causes problems in that the accounts section assumes that what the wholesaler pays them is what is owed, this is not acceptable and leaves the system open to abuse by both the accounts section and the wholesaler. Therefore implementing a feedback loop for wholesale customers will improve reporting, reduce the incidence and severity of under and over reporting sales and improve communications with wholesale customers thereby improving the relationship with them.

Following from this implementing a system for complaints, comments and other communications to be sent to front sales staff would similarly improve relations, as at present the only way for communication to occur is with the van driver, who is not able to resolve the issue and may not communicate with employees who can, it is also not their responsibility.

Another organisational problem is that front sales staff are paid by commission, which could lead to them artificially increasing existing orders or making up new orders to increase their pay, which not only wastes time and resources, but also encourages an atmosphere of hiding, lying and deliberately obscuring problems. This means that a requirement of the new system is the ability to track orders from creation to delivery, including who initiated the order, which should reduce incidents such as these and make the commission based pay system fairer. Alternatively removing the commission pay pay scheme completely should remove any temptation to inflate or falsify orders to improve pay.

In the event that an invoice is wrong and front sales is informed, a staff member calls the accounts section to fix the error, this leaves no paper trail and makes it very complicated during reconciliation if the figures do not match up, instead front sales should file an amendment which can be easily traced, therefore reducing the complexity of the system and improving compliance with Generally Accepted Accounting Practices (GAAP).

The company works with many different kinds of customers, from small corner shops to supermarkets, which may have orders which remain the same over a long period of time, this can be exploited by having certain customers having recurring orders, this not only saves time but could reduce the frequency of errors by reducing the human component of the ordering system.

Finally training for all of the above is necessary, as no matter how good the new system is it is only as good a the weakest part, training will help improve efficiency and familiarity with the new system and therefore improve its effectiveness.

# Recommendations

J. B. & D. I. Barden Ltd currents system has many rooms for improvements as outlined in the previous section, many of these problems can be solved via these following recommendations. Each recommendation will have supporting evidence to further support these recommendations.

The first recommendation was raised by S. Packer he raised an issue to monitor the separate parts of the dispatch system. Things like the vans service history and when its mot are needed to be re-done. Monitoring the vans can be done with a schedule tracking software, one such piece of software is called Time Tracker. Time Tracker allows for a user to input when tasks are due for in advance it will then tell the user when the task is needed to be done. This software could be used for the vans and allow for S. Packer to easily see at a glance when the vans need to be out of service for upkeep. This software requires a computer but does not need internet access to be able to function fully.

(Shipley, 2015)

A second recommendation from S. Packer was also to do route planning for the vans. This is for the drivers to easily know where they are going and how to get there. Currently the van drivers only know where they are going not directions so they could get lost and make deliveries late.

(Packer, 2015)

Viamente is a route planning software that allows the user to input what is needed to be delivered and the customer orders. Then after all the information has been put in the software will find all the routes to customers and also load balance the vans based on the routes. so if two vans need to go the same way but both are half full this software will make a route where only one van goes there and takes all the items.

The software also calculates the cost and time of the route so will give better information to the dispatch team as to when a van will return to be refilled. Finally the software can also send the directions as a email to the driver's phone as a text message, which they would have to look at while not driving between stops, or as a satnav compatible file. This software requires a computer connected to the internet. Other software packages are available which do a very similar thing these are Business Maps and Business Map Centre.

(Business Maps Ltd, 2015)

(Viamente, 2015)

(Businessmapcentre.com, 2015)

A issue raised by C. Nightingale was that customers wish to order online. This will allow for users to make their order when they are ready thus meaning that the orders are less likely to change at last minute because at the moment if the front sales staff call the company and they're not ready for the order they might not get all the things they need, whereas when they order online they will of known what they need. If there system allows it by setting up online ordering there computer could automatically place an orderSquarespace is a website which lets you set up a fully functional w.

(Nightingale, 2015)

ebsite which includes all the hosting, domain name and payment methods with no transaction fee. The tools can also be used by people with no knowledge of html and can be used to make professional looking websites. The business package also includes 24/7 support and unlimited pages and bandwidth for a set $28 per month.

(Squarespace, 2015)

Customer feedback is a recommendation we have found. In the current situation no feedback is given back to the company if there was a problem with the order. The driver will not always relay the feedback exactly how the customer wanted or they might not relay it at all. One way to combat this would be with a section on a website entirely for feedback and it could just email the feedback to the managers of the related section. This would mean the managers can get all the feedback they need when they need it and can improve the company as a whole by using it.

(Nightingale, 2015)

C. Nightingale also recommended giving staff there own computers to help improve efficiency as at the moment they only have one computer therefore this takes up a lot of time. If the front sales staff were all given their own computers which had some sales software on this would also mean it would be harder to create fake orders which C. Nightingale also thinks is happening. One software that could solve this is VanillSofts inside sales software package.This package allows for automated calling to systems, and allows for realtime tracking on who is calling who. This means that you could monitor who phoned who and when to double check that no one is trying to make up orders. This software is also online which means the computer will need a internet connection.

(Vanillasoft.com, 2015)

(Nightingale, 2015)

With all these systems and new databases on computers it will be very important to keep backups of the data if the components fail or get destroyed in an unforeseen event such as a fire. For this reason it is very important to consider off site backup, these backups can be managed by a third party companies. One company that can do this is Mozy. Mozy will take all your information and encrypt it then store it on there servers, this means that the information is safe no matter what happens on your system and you can access it at any time

(Mozy.co.uk, 2015)

S. Packer said that the drivers having to manually update delivery notes was a problem as the notes could be misread by the driver's hand writing. One way to get around this problem is to give the driver a tablet which also contains the invoice or delivery note electronically. This tablet would be used for customers to sign that they were delivered what the note says and any updates to the order can be done easily on the tablet. This will also work will as the tablets could be synced to the online backup to never lose a delivery note or invoice. Any tablet suitable of running an office application would be suitable for this job.These tablets should also be compatible with the routing program if they have GPS or a sim card.

(Easy Invoicing, 2015)

(Viamente, 2015)

# Conclusion

In conclusion we believe that the current system has many problems with it that are costing the business a lot of money. the recommendations we have given for the business should help the business increase its efficiency and turnover. The way this will happen is giving the managers constant information about the system so if a problem arises the managers can tackle the problem straight away. The online presence of the business will help increase turnover as there will be less wastage due to mistakes in the order or customers not being phoned for their order. The online presence will also allow for easy feedback to the company on issues customers have, the company can then try and tackle these problems before they get out of hand.

The routing system we recommended will help the efficiency of the dispatch system by automatically telling the packers what needs to go on each van and by telling the driver exactly where they need to go and the most efficient way to get there.

With all these systems deployed the company should be a lot more efficient and profitable then how it was before. There will also be a lot more infomation available throughout the whole bakery and delivery process this will mean any manager or person with access to the system will be able to find out any information they need and react to this appropriately.

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M1 Whole sale ring binder

Shop order

Orange invoice

M2 Own ring brinder

Telephone order request

*sale ring*

Telephone request

Whole sale order

Davierynote copy 2

Create invoice and send to whole binder sales

Daviery note and copy

Produce devilry notes and send to order tray

M3 ordering in tray

Take order form customer and Prepare production lists

Customor deteails

D1 mirobake customor files

B and mproduction list

Protection list details

D2 mirobake protration file

c and m production list

**Create invoive and send to whole sale ring binder sales**

The invoice is created form the shop order then sent to ring binder

**Take and Create productions list**

Orders are taken then form customors and a prodcuatuion list produces and sent to **sent to the bakkerrys**

**Interview with c natiagele**

1. What problems have you found with the current system.

It is infficatie(what I can remember)

1. What do you do with the orders after the customer has ordered them

There things happen. It taken recorded by frount sales, a protation list is made

3. Do you think there is a better way to record this information

yes

4 would be easier for you if your staff had their own computers?

**Yes.**

**5 do you know what happens with the production list and where does it come form**

**The production list comes front sales taken**

**Interview with s.packer.**

1. How easy to you find the control the dispatch operation using the current system

Difficult because the he doesn’t get feedback

1. Do you handle the delivererery notes

No

1. What do you do with them(If the answer to number 2 is yes)
2. Who does (if the answer to question 3 is yes)

Annabel smith

1. Do you think they is an easier why to keep records of that has been despatched?

Yes

1. Do you think the system should be changed and why?

No at monment.

**Minuets of meetings**

14/04/2015

Start time 13.30

Finish time: 14,30

**Present.**

Aarons ramies AR.

Rachel Lowe. RL

Matthew Sherlock MS.

MS doing process 3.

AR doing Process 2

Rl doing process 1

Come with 3 questions.

Agreed to each go away and find more questions

**Evaluation**

We all worked well together of as a group. Howeverver as we slipted it up we some people managed to find more information more information together arroan and Mathew were able to go into allot more information and there parts. However we did discusses everything that were and then initial weirtite we had many meeattings where we would dicusss the work and this seemed. One of the things we could get done and it gets it done is be more ogengireisae danf arrange merettings and agree what we were going to well in avande