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FACULTY OF ENGINEERING
DEPARTMENT OF INDUSTRIAL ENGINEERING

**Managerial support for an optometry practice:
A business analytics study**

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*Final year projects presented in partial fulfillment of the requirements for the degree of
Bachelors of Industrial Engineering at Stellenbosch University.*



Declaration

I, Melandi Kotzé, hereby declare that this Final Year Project consists of my own original work and that I have not previously submitted it at any university for a degree. All resources used were acknowledged in the appropriate manner according to Harvard standards.

Ek, Melandi Kotzé, verklaar hiermee dat hierdie Finale Jaar Projek bevat my eie oorspronklike werk en dat ek dit nog nie vantevore ingedien het by enige universiteit ter verkryging van 'n graad nie. Aan alle verwysings gebruik was erkenning gegee volgens die Harvard standarde.

.....

Signed

.....

On date



ECSA Exit level outcomes references

Exit level outcome	Sections	Comments
1. Problem solving	2, 3, 4, 5, 8, 10, 11	Practice X was identified as a small business that needed possible guidance on how to improve due to the fact that they have a net income loss and is a very young practice. The report identifies the problem, provides applicable literature to support the evaluation of the practice performance, generates possible solutions and provides recommendations to improve the practice. The problem was solved by means of engineering methods as well as research based on management skills.
5. Engineering methods, skills & tools, incl. IT	3, 5, 6, 7, 8, 9	Different methods and tools were used to solve the problem. Specifically industry benchmarks were used to evaluate the performance status of the practice. Computer software such as Excel was used to compute the revenue mix. It was also used to determine the variables used in the metrics (example productivity ratios) since this was not always directly available and had to, in some instances, be determined out of the sales data. Techniques from engineering economics and business management were used for example: a breakeven analysis, sensitivity analysis and risk assessment were done and a database of financial statements were analysed.
6. Professional & Technical communication	Entire report	The entire report was done based on prescribed report specifications and guidelines according to the study guide. Appropriate language was used and the summary was done in two languages. Figures and tables were used to structure and simplify explanations throughout the report. All industry jargon was explained in the glossary.
9. Independent learning ability	4,5,8,10	Literature was researched on the industry independently. Research found was applied in solving the problem. All steps taken in the report or statement made has literature support. This report challenges the fact that limited literature is available on the optometry industry in South Africa. Literature support was found that U.S benchmarks are applicable in South Africa's optometry industry. With this research and methods used to solve the problem recommendations could be made.
10. Engineering professionalism	Declaration, Reflection	All of the work in this report is my own and acknowledgement was given to references used. The project enabled me to engage in a professional manner with the optometry practice owner. The project made me grow as a candidate engineer.



Synopsis

The South African optometry industry has limited literature available regarding the ideal management of optometry practices. This makes it difficult for optometry practices to evaluate their performance in order to make better informed decisions for the future of their practice. According to other studies done on the South African optometry industry, optometry practice management is not initially included in the optometry post graduate or undergraduate programs. Therefore managerial skills and knowledge in most optometry practices is very limited. This report studied a specific optometry practice that strives for better business management in order to breakeven as soon as possible and to become profitable. The approach to the project was to evaluate the practice's performance in comparison with the industry benchmarks that is available. The industry benchmarks are United States based, but can be used as a good approximation of the South African industry, seeing as literature was found to support this assumption.

It was found that the practice is performing well in terms of the industry benchmarks, but certain areas were identified where there is improvement potential. These areas were analysed in more detail in order to generate possible solutions that could possibly improve the management procedures and processes used in the optometry practice.

It was found that the major setback for the practice is the lack of clients in general and specifically contact lens clients. When the client base expands the revenue will increase. This report provides recommendations to aid the management procedures in the practice in order to attract more clients and to ultimately become profitable.



Opsomming

Beperkte literatuur met betrekking tot die Suid-Afrikaanse optometrie industrie en die bestuur van praktyke is beperk. Gevolglik is dit moeilik vir Suid-Afrikaanse praktyke om hul effektiwiteit in die industrie te meet om ingeligte besluite vir die toekoms te neem. Volgens studies in Suid Afrika gedoen met betrekking tot die optometrie industrie, word bestuurs klasse nie ingesluit in voorgraadse of nagraadse kursusse nie. Gevolglik is bestuur agtergrond en kennis baie beperk in optometrie praktyke.

Hierdie verslag ondersoek 'n spesifieke optometrie praktyk wat na meer effektiewe bestuur van hul praktyk streef om spoedig finansieël gelyk te breek asook winsgewind te word. Die benadering tot hierdie verslag was om die huidige effektiwiteit van die praktyk te evalueer en met standarde van die optometrie industrie te vergelyk. Die industrie standarde verkrygbaar is gebaseer op die U.S. standarde, maar is van toepassing op Suid-Afrikaanse optometrie praktyke volgens literatuur studies gedoen.

Die ondersoek se resultate het getoon dat die praktyk goed presteer met betrekking tot die industrie standarde, maar terselfdetyds is areas waar verbeter kan word ook geïdentifiseer. Hierdie areas is meer in diepte ondersoek om potensiële oplossings te genereer wat moontlik die bestuurs besluite en prosesse vir die optometrie praktyk kan verbeter.

Die belangrikste bevinding wat voortvloei uit die navorsing rakende die praktyk is die gebrek aan voldoende kliënte in die algemeen, maar meer spesifiek kontak lens kliënte. Om die inkomste te vergroot is dit noodsaaklik dat die kliënte basis uitgebrei word. Hierdie verslag bied aanbevelings vir die praktyk om bestuursbenadering moontlik aan te pas om die kliënte basis vinniger uit te brei en die praktyk op 'n winsgewende pad te plaas.



Acknowledgements

I would like to thank God for giving me the strength to complete this project. My family for their loving support, prayers and motivation. I also would like to thank my study leader for her guidance and support during the course of this project.



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Glossary

MBA	The Management and Business Academy
O.D.	Doctor of optometry
U.S.	United States
SAOA	South African Optometric Association
OPM	Optometric Practice Management
Rxes	Eyewear received with a prescription
Markup	Price of item sold
Consignment	The supplier keeps ownership of the product until it is sold and if not sold it is returned to the supplier



1 Introduction

Optometry is one of the larger independent health-care professions practiced. Globally, people are becoming more aware of the importance of healthcare on a daily basis. The need for vision care is increasing with the growing and aging world population, therefore it's likely that the demand for optometrists will also increase.

An optometry practice in the Western Cape approached the student to evaluate their overall business performance and identify possible areas for improvement. The practice requested to not be mentioned in the study, due to sensitive financial data being exposed, hence it will be referred to as practice X throughout the rest of the study.

Richter (2007) states that in South Africa there is a lack of benchmarks and research regarding optometry practice management. She also mentions that business management in terms of optometry in South Africa is still very young. South African authors have only recently started publishing books and articles on practice management focusing on subjects such as: inventory control, health, administration, human resources, project management and professional ethics, according to Mokoena (Richter, 2007). A study done by Richter (2007) researched the opinions of optometrists regarding whether or not undergraduate and post graduate programs in optometry in South Africa should consist of optometry practice management (OPM) courses. Richter's study found that 92.6% of the optometrists registered at the South African Optometry Association (SAOA) that took part in the survey believed that OPM should be included in their undergraduate and postgraduate studies. Gowans stated that the effectiveness of an optometry practice lies in the efficient management and control of a practice's stock and assets (Richter, 2007).

Accordingly it is evident that for optometry practice X to achieve a competitive advantage and maintain it, good management is needed. It should be kept in mind that practice X belongs to a franchise, which can impose limitations to possible improvements. The practice was taken over by the new owners 2 years ago and is thus still in its early stage of growth; consequently posting an annual net loss.

Section 2 of this report describes the research problem and is followed by the methods used to address the research problem in section 3. A literature review will be presented in section 4 in order to give more insight on the topic. The current state of



optometry practice X will be measured and compared to industry norms in order to determine areas of interest where possible improvements can be made in section 5. The areas for possible improvements will be analysed in order to provide meaningful recommendations in section 10.

2 Research Problem

The objective of this study is to engineer the business procedures of optometry practice X in order to optimize the practice's daily management with the intention to become profitable. The initial aim of the study will be to find measurements suitable to evaluate practice X with, in order to identify areas with improvement potential. The proposal of solutions and setting of goals to effect these improvements and implement it within the practice will be considered.



3 Methodology

3.1 Introduction

See figure 1 for the research methodology which was the planned approach to this report. The timeline for these steps can be seen in Appendix C in form of a Gantt chart. The methodology can be described by a number of steps to be completed.

Step 1: Literature study

Research was done on the optometry industry globally and specifically in South Africa. The research was updated continuously throughout the completion of this report.

Step 2: Collect and analyze data

The data comprised practice X's accounting statements, summarised supplier invoices, daily sales and supplier benefit information. This data was analysed to determine the current performance status of practice X.

Step 3: Compare practice to general optometry performance norms- The current status of practice X was compared to optometry industry norms as found in step 1.

Step 4: Determine personal benchmarks for practice X

With regards to the industry norms and results from step 3, benchmarks were set as specific goals for practice X to strive towards.

Step 5: Determine breakeven sales

It was determined what practice X's requirements are to be able to break even with their sales in the future.

Step 6: Sensitivity analysis

A sensitivity analysis was done to determine the influence that an inaccurate benchmark could have on the practice evaluation.

Step 7: Identify areas for possible improvement

Significant areas that have potential for improvement were identified.

Step 8: Generate possible solutions

Possible solutions were generated for the possible improvement areas identified.

Step 9: Risk analysis

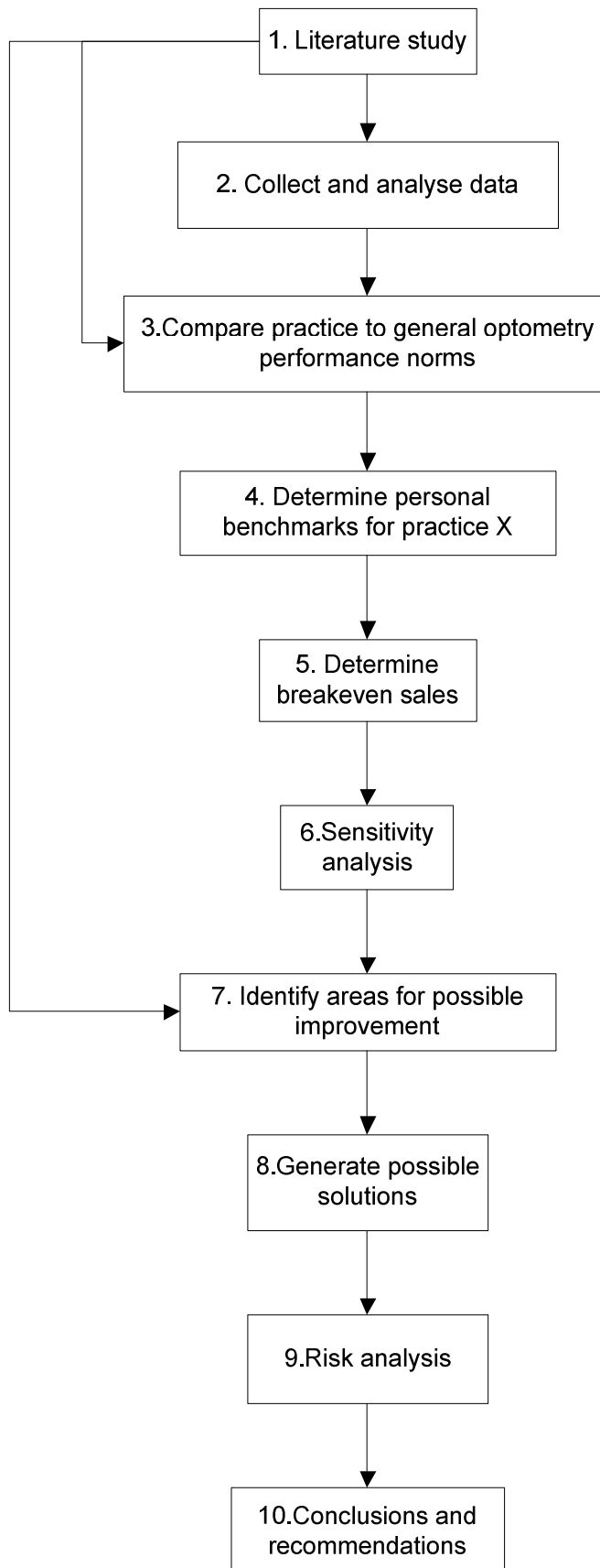
A risk analysis was done to determine the influence of the lack of franchise benefits.

Step 10: Conclusions and recommendations

Conclusions were drawn and recommendations were generated on how to potentially improve the practice performance going forward.



Figure 1: Research Methodology



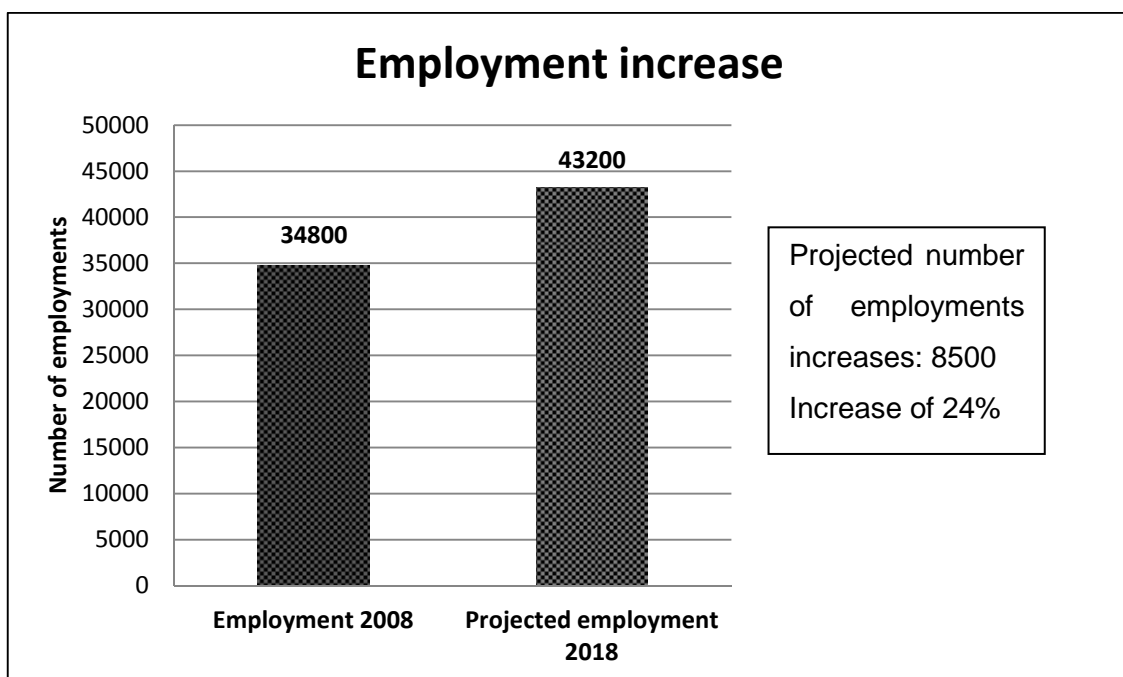


4 Literature study

4.1 Optometry growth: future prospects for the optometry industry

From 2008 to 2018 the employment of optometrists is expected to grow by 24% according to the U.S. Department of Labour (U.S. Bureau of Labour Statistics, 2009). Statistics of optometrist employment in 2008 and projected employment in 2018 is illustrated in Figure 2.

Figure 2: Employment increase



(U.S. Bureau of Labour Statistics, 2009)

The demand for optometrists will most likely increase with the rising global population, recognising the importance of vision care. More job growth is also expected due to the increase in the number of health insurance plans that include vision care. The aging populations will likely result in an increase in optometrist visits, since vision problems (such as cataracts, glaucoma and macular degeneration) are more common among the elderly (U.S. Bureau of Labor Statistics, 2009). Although optometrist are in demand the opening of a new optometry practice is difficult, thus good management is essential in order to become profitable as soon as possible.



4.2 Advantages and disadvantages of different types of optometry practices

The following primary types of practices are managed in South Africa and globally: owner operated practices, working for another person and corporate optometry. To follow is a clarification of each type of optometry practice.

4.2.1 Owning your own private practice

All capital invested into the practice would be your own and you are self- employed. All profit and losses are carried by the owner.

4.2.2 Working for another person

This shifts the responsibility of capital investment to the company who employs you. The optometrist therefore receives a salary and is not affected by the profit or loss the company makes.

4.2.3 Corporate optometry

Corporate optometry is mostly defined as when a practice is part of a bigger group corporate entity. They are able to work under the larger business's name and receive benefits for belonging to this group. On the other hand, the owner has to pay fees and conform to certain codes of conduct. A franchise is a good example of corporate optometry.

A summary of the advantages and disadvantages of the different practice types is identified in Table 1.



Table 1: Advantages and disadvantages of different optometry practices

	Owning your own private practice	Working for another person	Corporate Optometry
Advantages	Independence	On-job-training	Excellent starting salary
	Learn all phases of business	No investment	Opportunities across country
	High income potential	Immediate income	Company benefits
	Develop long term patient/staff relationships	Learn all phases of business	Freedom of administrative chores
	Schedule flexibility	Entry into professional circle	Exposure to broad range of patients
	No bureaucracy	Steady income	Latest technology
		Existing patient base	Access to managed care contracts
	Owning your own private practice	Working for another person	Corporate Optometry
Disadvantages	Large upfront investment	Opportunities may be limited geographically	Evening and weekend hours required
	Latest equipment may be unaffordable	Salary may be modest initially	Large patient load. Busy schedule
	Revenue may grow slowly at first	Must conform to senior employee's methods	No choice in hiring staff
	Few on-the-job training opportunities	May get "undesirable" patients of senior employees	Patient care protocols may be dictated
	Income depends on cash flow		Peer review required
	No paid "benefits"		
	Administrative headaches		
	Need for business training		

(Adlington & Adlington, 2011)

Practice X is part of a franchise, but does have some private practice characteristics. The franchise, as well as the owner, was responsible for investing capital. Practice X receives benefits from the franchise and has to conform to the franchise's restrictions. Table 2 summarizes the advantages and disadvantages relevant in practice X's case which will be discussed next.



Table 2: Practice X's advantages and disadvantages

Advantages	Disadvantages
A. Independence	J. Need for business training
B. Learn all phases of the business	K. Revenue grows slowly at first
C. Existing patient base	L. Few on-job training opportunities
D. Company benefits	M. Opportunities are limited geographical
E. Schedule flexibility	N. Administrative chores
F. High income potential	O. Weekend hours required
G. Develop long term staff/client relationships	P. Don't have a busy schedule
H. Choice in hiring staff	
I. Large upfront investment provided	

Advantages

A. Independence

Although the practice belongs to a franchise, it still has a lot of the control over the practice procedures.

- As long as it conforms to the prescribed fraction of different brands and always have full spectacle displays, the practice can order any variety of frames at any given time.
- Marketing is provided for the practice by the franchise, but the practice is allowed to do supplementary marketing.
- The practice receives most of the income. A prescribed amount is paid to the Franchise

B. Learn all phases of the business

The business owner is responsible for all phases of the business including:

- Inventory management – this is assisted by a computer system and the computer system is managed by the employees and optometrist



- Financial obligation- this is outsourced to an accounting firm
- Business performance management
- Client relationships

C. Existing patient base

The practice was bought from another owner who left the patient base at no extra cost.

D. Company Benefits

Belonging to the franchise enables the practice to receive goods on consignment, receive free marketing, be a part of a well known brand name and receive capital investment support.

E. Schedule flexibility

Three permanent employees work 5 days a week and 8 hours per day and the optometrist works 6 days per week and 8 hours per day. The practice is open for longer than 8 hours per day, but every employee as well as the optometrist works in shifts. Since the practice does not have a very full appointment schedule per day it is possible to cluster appointments on certain days only.

F. High Income potential

High income is possible since the owner receives most of the income, but to realise more revenue must be generated by means of expanding the client base.

G. Develop long term staff/client relationships

The existing client base is not that extensive and therefore it is easier to have better client relationships and provide better care, as opposed to a corporate optometry practice with a busy appointment schedule where appropriate client care can be neglected.

H. Choice of hiring staff

The optometrist is in full control of hiring employees for the practice.

I. Large upfront investment provided

The franchise provides the initial capital for the business.



Disadvantages

J. Need for business training

Training employees is a very important aspect of improving business performance and in the case of smaller practices; financial support is not always available. In practice X there is minimal on-job training.

K. Revenue grows slowly at first

A new practice can take a few years before becoming profitable as any other small business. The practice on which the study is done was bought 2 years ago and therefore the revenue is slowly incrementing, but the net income is currently still at a loss. This is to be expected for a young practice.

L. Few on job training opportunities

When a practice is small there is one person per specialty field and therefore no senior expert can oversee/mentor other employees.

M. Opportunities are limited geographically

The practice is situated in an area where other competitive optometry practices are present.

N. Administrative chores

Some of the administrative chores can be handled by the employees and optometrist, but some areas needs to be outsourced at an extra cost.

O. Weekend hours required

The franchise insists on practice X being open on weekends therefore staff members and the optometrist is obligated to work on weekends.

P. Don't have a busy schedule

Clients are helped on a walk-in basis as well as by appointment. Unfortunately the appointment schedule of the practice is not very busy due to an insufficient client base, which leads to not a short fall in revenue and inability to cover the expenses of the practice.



4.3 Seven habits of effective optometrists

One of the greatest misperceptions optometrists encounter is a belief that their business success relies merely on the clinical skills they can apply in their practice, without considering client relationships. Non-technical skills are much more significant than most optometrists realize.

“The seven habits of highly effective optometrists” (Chris, 2009) suggests seven habits for optometrists to consider in order being financially successful. The following habits are easy to implement and can be beneficial to practice X.

4.3.1 Client centerism

Many optometry practices provide sufficient technical skill and strive to continuously improve profit. Profits and expenses become the center of attention and drives activities within the practice. Their goals are mainly focused on the practice’s financial welfare and neglect to take into consideration the importance of client satisfaction.

Many practices are under the impression that they are client centric, but in truth their service levels are mediocre. It is found that clients value their personal relationship with the optometry practice more than the clinical service they receive. It is, therefore, important for an optometrist to form a bond with each client and take interest in their lives.

Moss and Shaw-McMinn (2001) stated that rumours of poor quality service spreads more rapidly than words of good quality. According to their research clients do not return based on the following reasons:

- 3 % clients moves to another area
- 9% clients transfers to the competition
- 14% clients is not satisfied with their products received
- 68% clients felt unwelcome

It is important for optometry practice X to form quality relationships with clients and to provide service in high levels in order to achieve the following results. It is the personalised service clients receive that is the grounds for them to return to that same practice.

- Better return rates based on service received
- Client base expansion through positive word-of-mouth



4.3.2 Management by performance metrics

Management metrics enables a practice to keep record of the practice's performance and enables response in cases of changing circumstances in a business, such as seasonal dangers, a recession etc.

Metrics are very important platforms on which informed decisions can be based, as metrics are computed from actual data and thus reduces the risk of basing actions on intuition and personal feelings. Quantitative measures enable clear goal setting (discussed in section 4.3.3). Many optometry businesses lack the business element of management of an optometry practice. The performance of an optometry practice can be improved by continuously measuring their position with regards to industry norms. The most successful optometry practices continuously measure variables such as: revenue generated per eye exam, revenue per optometry doctor (O.D.) hour, revenue generated per staff hour, exams per O.D. hour, revenue per active patient, number of exams per active patient, revenue share and expense categories.

Practice X does not currently invest a great deal of time into measuring the performance of their business and, therefore, this leaves room for improvement. By monitoring practice X's performance, attention can be focused on the actions that generate the best results. Corrective action can then be taken on areas identified for improvement. Its current performance status will be measured by means of these metrics and will be discussed in section 5.

4.3.3 Setting goals

Having a successful optometry practice is an ideal which starts with a long-term vision consisting of short term goals. It is found that in daily life setting goals makes people more productive and lead to more satisfying lives than following a day-to-day approach. This concept can be incorporated in practice X by setting goals based on the performance measurements taken. The following goals can be set for practice X:

Long term goals:

1. What is the performance vision for the practice?

Practice X should strive to breakeven as soon as possible and increase their net income to an average 33% (Gailmard, 2007) of their gross revenue for the years to follow.



2. What is the work environment vision for the optometrist?

Practice X should strive to be more efficient by seeing more patients per hour, in order to work shorter hours and to maintain good revenue streams (Damm & Heechung, 2010). This will only become practical when the practice has a large enough client base.

3. What career accomplishments should the optometrist have achieved upon retiring?

The optometrist should have an optometry business that is managed by an associate and is well-known for its personal client-practice relationships and quality service.

Short term goals:

1. What are the milestones that need to be achieved to reach the practice's performance vision?

Revenue should be increased and costs reduced as much as possible.

2. What is the time frame in which the milestones need to be accomplished?

- Increase revenue within a year.
- Breakeven after two years if possible.
- After practice breaks even strive to have a profitable net income in the years to follow.

3. What should be accomplished this year?

- Increase private marketing effort.
- Grow the contact lens client base to constitute 22% (industry norms) of the practice's revenue (Gailmard, *et al.*, 2010).
- Improve recall system: "60% of all the patients you see should be seen again by you within a three year period" (Bennett, 2003).
- Optimise frame mixes to attract clients and have adequate stock of favoured brand names.
- Get involved in the community to attract more clients.
- Continuously use performance metrics to monitor practice performance.

4. What should be accomplished this month already?

- Set up a marketing plan.
- Increase customer satisfaction by building quality relationship and improving service which should be continued for all the years to follow.
- Set up a personal website for practice X to make practice information and service more accessible to clients.



Implementing long term and short term goals in practice X is likely to improve their business procedures and set a basis for continuous assessment of the practice's performance in the future.

4.3.4 Efficient time use

Time management is an essential business skill. The ideal is to distribute time around the practice's goals and main concerns. Unfortunately, Practice X presently does not have a very full schedule in terms of time slots filled during the day for eye exams, but managing their time around other aspects of the business can be very beneficial. When practice X reaches its potential in terms of a full schedule, good daily time management will become essential.

According to Chris (2009) "The best performing optometrists have no more time to advance their business than do the worst performers, but they use every minute more effectively. The most productive 10 percent earn nearly four times as much each hour they spend in the office than do the least productive 10 percent." Practice X should strive to be part of this productive 10 percent when their schedule becomes full of back to back appointments. If practice X improves their business procedures discussed in section 10 it is likely in the future that the practice will become part of this 10 percent.

4.3.5 Implementing leadership

Having a close relationship with staff members even though employees have different educational degrees can be very beneficial to an optometry practice. Even if a practice's staff members consists of people with minimum eye care experience or training in customer service, it is still important to include staff members in the vision of the practice. Continuous on-job training and guidance of staff members is needed. Well trained staff members provide good technical and personal service, which results in returning clients. Approaching experts to provide guidance in how to engage your staff can be beneficial to a practice. Practice X strives to have good staff relationships in order to provide better client service and more returning clients.

4.3.6 Taking risks

Changing a business's routine does hold financial risk, but breaking old habits and implementing new ideas can give a practice a competitive advantage. "No successful business was ever created without accepting risk" (Chris, 2009). In order for practice X



to improve its procedures practice X will have to change daily routines which may seem risky at first, but can be very beneficial to the practice in the long term.

4.3.7 Continuous improvement

It is important to constantly improve the daily office routine of an optometry practice. This includes being open to new technology. Including staff members in the continuous improvement can also be beneficial by assigning different areas in the business to different staff members to monitor. The biggest barrier to improvement is not being open to change. Practice X does not currently have performance metrics that monitors the practice's health and therefore this is something that can be valuable for their yearly routine. Performance metrics will identify areas where practice X can improve yearly, which will enable it to set new goals every year; consequently continuously improving their business procedures.



5 Current performance status of optometry practice X

5.1 Introduction

Jerry Hayes, OD, who is among the founding faculty of The Management Business Academy (MBA), states in his lectures: “Whatever you measure, improves” (Gailmard, *et al.*, 2010). Using metrics enables a practice to monitor its performance. It also indicates where there is potential for improvement. Metrics provide a way for an owner of an optometry practice to stay in control of what is happening in the business and provide means by which goals can be set realistically. MBA has been collecting information on the characteristics and financial performance of independent optometric practices from 2005. Their surveys include about 1500 optometry practices in the U.S.

The MBA guide has been used as metric to determine the current performance status of practice X. Although the guide is based on the U.S. dollar, all financial numbers has been converted with 2010's averaged Rand-Dollar currency exchange rate (\$1 = R7.325743).

An interview with John Hanson, who joined Johnson & Johnson Vision Care as an account manager over 8 years ago, was posted on the Eyesite Magazine website regarding the future success of their brand. Johnson and Johnson is a world known vision brand and globally number one with soft contact lenses (Eyesite Magazine, 2011). Hanson worked originally in the UK, but has been an account manager for many months in South Africa at Johnson and Johnsons Vision Care. According to Hanson, comparing the UK standards to South Africa's standards in optometry is very similar. Hanson (Eyesite Magazine, 2011) also mentioned: “If looking for a benchmark then I turn to the U.S. The eye doctors there are much more proactive in offering their professional services and also suggesting different vision solutions according to the patients needs. At our recent Acuvue® centre of excellence conference we discussed doing the same in a South African practice.” Hanson finds the optical industry in South Africa the same as many other markets he has worked in (Eyesite Magazine, 2011). On these grounds it was possible to use U.S. based benchmarks for practice X for a good approximation of how it needs to perform.

The general findings of using the MBA guide will be summarised in this report and the most significant findings are highlighted.



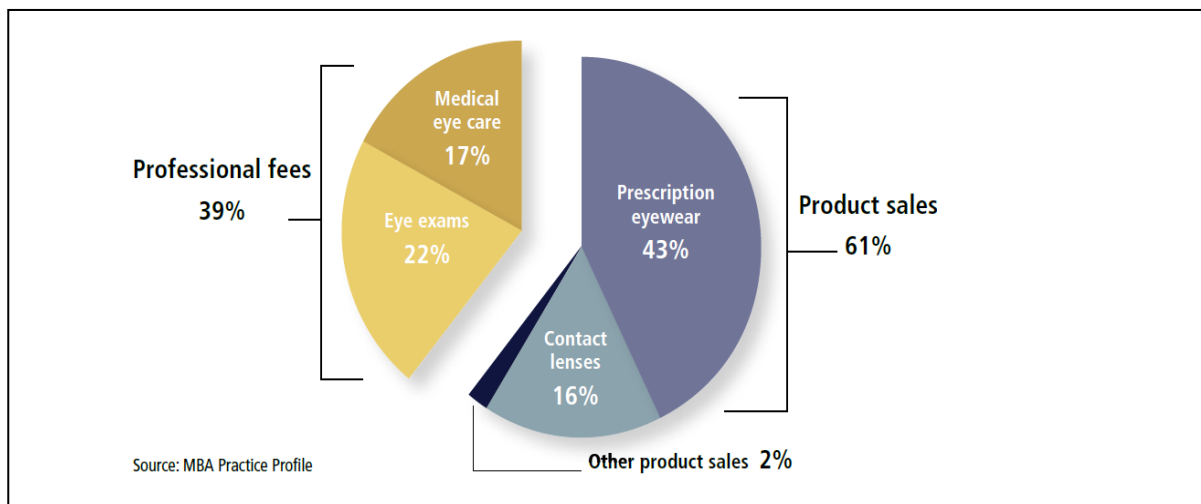
5.2 The revenue mix of an optometry practice

When assessing an optometry practice's performance, it is important to consider the revenue mix. This metric should be observed continuously. A practice that fluctuates widely from the norms, with no specialised field, could possibly not be maximising their revenue.

5.2.1 The typical practice

There has been minimal change of the revenue mix of a typical practice (Figure 3) over the last few years, but it is estimated that the contribution of medical eye care is increasing slowly (Gailmard, *et al.*, 2010).

Figure 3: Revenue mix of the typical optometry practice



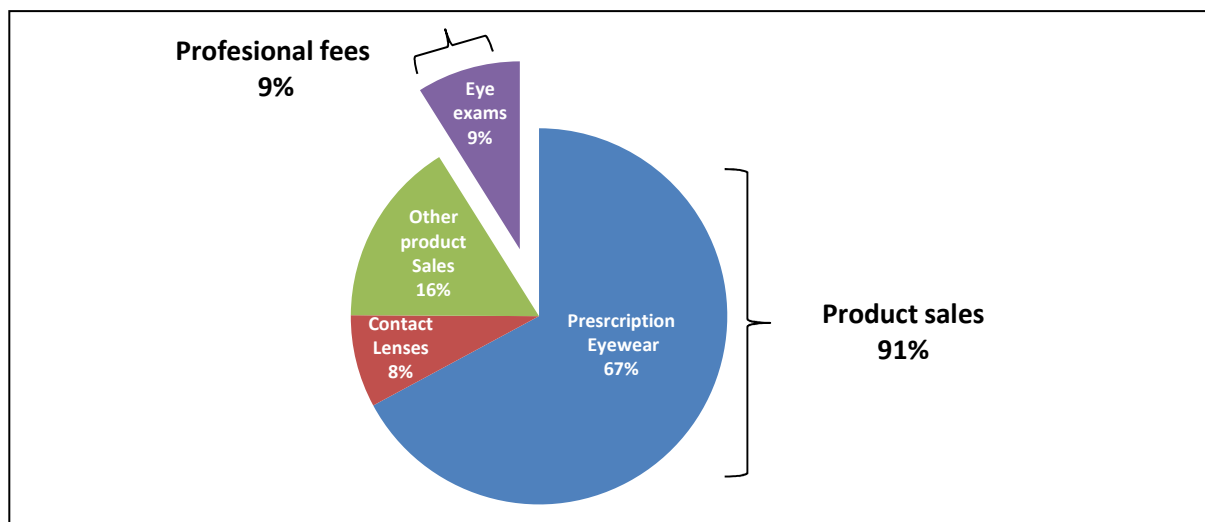
(Gailmard, *et al.*, 2010)

5.2.2 Practice X

The annual revenue is R1, 335,955.66 from which the product sales contributes 91% of the revenue (Figure 4). The practice does not provide any medical eye care. If medical eye care is needed, the patient is referred to an eye specialist.



Figure 4: Revenue mix of optometry practice X



5.2.2.1 Observation of practice X's revenue mix

The norms for prescription eyewear sales and professional fees are 43% and 39% of the revenue respectively. Contact lens sale norms are 16% of the revenue mix. (Gailmard, *et al.*, 2010) Practice X's prescription eyewear sales is 67% of the revenue mix and professional fees contributes 9% to the revenue mix. Contact lens sales contribute to 8% of the revenue mix. According to Gailmard, *et al.* (2010) practice X complies only with the norms of prescription eyewear. Practice X's prescription eyewear is 24% higher than the norms. On condition that the prescription fraction does not drop below 35%, practice X is performing satisfactorily in this criterion (Gailmard, *et al.*, 2008). Practice X's revenue fractions of professional fees and contact lens sales vary with 30% and 8% respectively less than that of the norms.

According to Gailmard, *et al.* (2010) possible reasons for not reaching the fraction target of 39% for professional fees could be:

- professional fees that are too low
- income generated from medical care that is too low
- a small client base

In practice X the professional fees are on the same standard with that of other competitors. This leaves income from medical care and a small client base as probable reasons for such a low percentage for professional fees. The practice does not provide medical care and do not have a large existing client base, accordingly instances are causes for the deviation from the norms. The small client is quite normal for such a young practice, but the growth of their client base can possibly be



accelerated in the next few years. The medical care nonconformity can unfortunately not be addressed, since practice X do not have an ophthalmologist.

According to Gailmard, *et al.* (2010) possible reasons for not reaching the fraction target of 16% for contact lens sales could be:

- overlook mentioning contact lenses to clients during routine exams
- the use of speciality lenses are low by clients of the practice

It is evident that there is a need for an increase in the number of eye exams, as well as sales of contact lenses. Ways to optimise these areas will be discussed in section 8.

5.3 Key performance metrics

A summary follows of key metrics that is used to determine the performance of an optometry practice and to identify areas that could possibly be optimised. These metrics are based on The Management Business Academy (2010) booklet with regards to U.S. optometry industry norms. Practice X's information was determined from its financial statements and interviewing its optometrist. Table 3 the key metrics by practice type. Practice X can be identified (highlighted in red) in the first category. It has an annual income of less than R3662, 87 million (\$500 million). Table 4 compares the industry norms identified in Table 3 to the averages of Practice X. The categories exhibits: number of optometrists, number of non-optometry staff members, gross revenue annually, office square meter, optometrist hours, staff hours, complete exams and active patients. This information was used to calculate the productivity ratios summarized in Table 5.



Table 3: Key metrics by practice type

Key Metrics by Practice Type									
	Solo ODs			Two or more ODs					
	<\$500M (64)	\$550- \$749M (95)	\$750M+ (99)	1 Location			2+ Locations		
		<\$750M (96)	\$750- \$1,499M (296)	\$1,500M+ (156)	<\$1,000M (86)	\$1,000- \$1,499M (77)	\$1,500+ (130)		
Number	5.8%	8.6%	9.0%	8.7%	26.9%	14.2%	7.8%	7.0%	11.8%
% of MBA Practices									
Characteristics									
Number of ODs (A)	1	1	1	2.1	2.4	3.2	2.7	2.8	4.1
Number of non-OD staff (A)	3.3	4.8	6.8	5.3	8.5	12.9	6.3	8.8	13.9
Gross rev. (M \$000)	\$375	\$617	\$917	\$620	\$1,088	\$1,804	\$675	\$1,289	\$2,245
Office square feet (M)	1,650	2,000	2,575	1,950	3,000	4,150	2,000	3,100	5,000
OD hours (M)	1,920	2,000	1,920	2,616	3,430	4,875	2,013	3,655	5,628
Staff hours (M)	4,817	7,563	10,885	7,557	12,580	20,641	8,788	14,555	23,645
Complete exams (M)	1,296	2,049	2,828	2,172	3,536	5,548	2,500	4,002	7,446
Active patients (M)	2,793	4,717	7,000	5,000	8,000	13,005	6,000	10,000	18,762
Productivity Ratios (median)									
Gross per exam	\$260	\$297	\$327	\$285	\$307	\$327	\$285	\$304	\$309
Gross per OD hour	\$197	\$302	\$476	\$223	\$314	\$395	\$278	\$336	\$404
Gross per sq. ft.	\$227	\$306	\$355	\$293	\$364	\$450	\$321	\$423	\$455
Gross per staff hour	\$76	\$82	\$85	\$76	\$82	\$90	\$75	\$85	\$92
Gross per FTE OD (\$000)	\$404	\$629	\$990	\$468	\$652	\$819	\$576	\$700	\$846
Exams per OD hour	0.76	1.04	1.48	0.78	1.05	1.15	1.09	1.13	1.28
Revenue per active patient	\$126	\$133	\$143	\$123	\$137	\$140	\$121	\$120	\$147
Exams per active patient	0.44	0.32	0.42	0.45	0.46	0.45	0.39	0.39	0.40

Source: MBA Practice Profile

(Gailmard, et al., 2010)

Table 4: Key metrics of practice X versus typical practice norms

	Practice X	The typical practice
Solo OD		
Gross Revenue	<\$500M (R3662, 87 million)	
Falls in % of MBA Practices	5.8%	
Characteristics		
Number of ODs (A)	1	1
Number of non-OD staff (A)	3	3.3
Gross Revenue annually	R 1, 335,956	R2 ,747, 154(\$375 000)
Office square meter (M)	117 m2 (1 259 ft2)	153.29 m2 (1650 ft2)
OD hours (M)	2504	1920
Staff hours (M)	5904	4817
Complete exams (M)	438	1296
Active Patients	1430	2793



5.3.1 Active patients and complete eye exams

From Table 4 active patients and complete eye exams were identified areas with improvement potential. The complete eye exams for practice X is 34% of that of the norm. Practice X's active patients are 51% of that of the norm. Possible reason could be (Gailmard, *et al.*, 2010):

- Eye exam fees are too low
- Retail pricing that is too low
- Low amount of multiple pairs sold
- Client base too small

There are 6 categories that determine the norms for productivity in an optometry practice such as: gross per exam, gross per optometry doctor (O.D.) hour, gross per square foot, gross per staff hour, exams per OD hour, revenue per active patient and exam per active patient (Gailmard, *et al.*, 2010). The available information in Table 4 were used to determine the Productivity ratios summarised in Table 5 by using the following set of equations provided by The Management Business Academy booklet (Gailmard, *et al.*, 2010).

$$\text{Gross revenue per complete exam} = \frac{\text{gross revenue annually}}{\text{number of eye exams annually}} \dots[5.1]$$

$$\text{Gross revenue per O.D. hour} = \frac{\text{gross revenue annually}}{\text{number of hours worked by O.D. annually}} \dots[5.2]$$

$$\text{Gross per staff hour worked} = \frac{\text{gross revenue annually}}{\text{number of hours worked by staff annually}} \dots[5.3]$$

$$\text{Exams per O.D. hour} = \frac{\text{number of complete eye exams annually}}{\text{number of O.D hours worked}} \dots[5.4]$$

$$\text{Revenue per active patient} = \frac{\text{annual collected gross revenue}}{\text{number of patients seen atleast once over past 3 years}} \dots[5.5]$$

$$\text{Exams per Active patient} = \frac{\text{num of complete eye exams performed annually}}{\text{num of patients seen atleast once during the past 3 years}} / 100 \dots[5.6]$$



Table 5: Productivity ratios of practice X versus norms of the typical practice

Productivity Ratios			
Categories	Practice X	The typical practice	Practice X % of norms
[5.1] Gross per exam	R1, 603 (\$219)	R1, 905 (\$260)	84%
[5.2] Gross per OD hour	R 325 (\$44)	R1, 443 (\$197)	23%
[5.3] Gross per staff hour	R 131 (\$18)	R 557 (\$76)	24%
[5.4] Exams per OD hour	0.2	0.76	26%
[5.5] Revenue per active patient	R 541 (\$74)	R 923 (\$126)	59%
[5.6] Exams per active patient	0.34	0.44	77%

Table 5 compares the productivity ratios of practice X to the norms of a typical practice. Practice X's productivity ratios for gross per exam and exams per active patient do not deviate immensely from the norms of the typical practice, but will be addressed in order to make recommendations in section 10 that covers all management procedures for practice X.

5.3.2 Gross per O.D. hour worked, staff hour worked and exams per O.D hour

The gross per O.D. hour worked, gross per staff hour worked and exams per O.D. hour are all very low. These three categories will have similar explanations for variation from the typical practice norms.

Possible reasons could be (Gailmard, et al., 2010):

- The patient traffic is low
- Delegation of staff is low
- Retail pricing/fees are too low

Practice X's retail pricing is similar to that of its competitors, which eliminates the possible reason of retail pricing being too low. The delegation of staff is efficient in enough within practice X. Practice X is a young practice and subsequently patient traffic will be low.



5.3.3 Revenue per active patient

The revenue per active patient for practice X is 59% of that of the norms. Possible reasons could be (Gilmard, *et al.*, 2010):

- The return rate of patients is too low
- There is long interval between exams
- Eye exams fees are too low
- Retail pricing is too low

Practice X's retail pricing and eye exam fees are similar to that of its competitors. There are very long intervals between exams, since practice X does not have back to back appointments daily. Practice X's small client base is the primary reason for this.

5.4 Expenses

There are 9 norms measured for different expenses in an optometry practice. Practice X's expenses were compared to the expected norms of a typical practice. Expense ratios do not necessarily diverge due to practice size and over the past few years the ratios in the MBA booklets have not changed. Expense ratios such as: cost of goods, staff, general overhead, occupancy, equipment, marketing, interest, insurance, repair and maintenance were used to pinpoint areas that vary widely from the norms. Practice X falls in the first expense category of an expense smaller than R3, 662, 872 (\$0.5 million) highlighted in red in Table 6.

(Gilmard, *et al.*, 2010) for the typical optometry practice

Expense Ratios by Practice Size (average % of gross revenue)						
Expense Category	Practice Size Quintile (Median - \$million)					Total
	\$0.5	\$0.8	\$1.1	\$1.5	\$2.1	
Cost of goods	30.3%	30.3%	29.3%	29.0%	27.2%	28.8%
Staff	18.8%	18.9%	19.8%	20.4%	21.4%	19.7%
General overhead	8.1%	7.8%	7.3%	6.7%	6.0%	7.1%
Occupancy	8.5%	7.2%	6.9%	6.0%	6.1%	6.9%
Equipment	2.4%	2.3%	2.0%	2.0%	1.6%	2.0%
Marketing	1.8%	1.7%	1.5%	1.5%	1.5%	1.6%
Interest	1.4%	1.3%	0.9%	0.7%	0.7%	1.0%
Insurance	0.9%	0.8%	0.8%	0.8%	0.9%	0.8%
Repair/maintenance	0.5%	0.5%	0.6%	0.5%	0.5%	0.5%



Table 7 compares the expense ratios of practice X to the norms of the typical practice identified in Table 6. Practice X has an annual expense of R1, 182, 757 for 2010. The expense categories of practice X that are above the norms are highlighted in yellow. Ratios not highlighted do not deviate considerably from the norms.

Table 7: Expense ratios for optometry practice X

Expense Ratios by Practice Size (average % of gross revenue)		
Expense Level	< R 3, 662, 872	
Total Expense of practice X in 2010	R1 ,182,757.11	
Expense Category	Practice X	Typical practice
Cost of goods	42%	30.3%
Staff	30%	18.8%
General Overhead	25%	8.1%
Occupancy	29%	8.5%
Equipment	2%	2.4%
Marketing	2%	1.8%
Interest	3%	1.4%
Insurance	1%	0.9%
Repair/Maintenance	0.5%	0.5%

There are many expenses such as general overheads, occupancy and equipment for instance, that is fixed within the practice and cannot be changed, but the following areas of interest provides room for alterations:

5.4.1 Cost of goods

Practice X's cost of goods is 12 % above that of the norms (Table 7). Decreasing cost of goods can be somewhat difficult, since practice X already receives discounts on stock from suppliers being part of a franchise. An analysis will be done in section 9 to determine the influence of these discounts on practice X's cost of goods expenses.



5.4.2 Staff expenses

According to Gerber (2005) the average 20% benchmark should frequently be higher for staff expenses. He states that practices with higher labour costs tend to perform better. The employees are in constant contact with clients, thus influences client's decision to return. Practice X has four permanent employees including the optometrist. The industry norms in the same annual revenue category have 3.3 staff members (Table 4).

5.5 Product related norms

These benchmarks is in terms of the usage of the product, margins of profit and the capture rates for sales for eyeglasses, spectacle lenses and contact lenses (Gailmard, *et al.*, 2010). Calculations as provided by The Management and Business Academy booklet follow (Gailmard, *et al.*, 2010). The results are summarised in Table 8.

$$\text{Eyewear Prescriptions (rxes) per 100 eye exams} = \frac{\text{Number of eyewear Rxes dispensed in any time period}}{\text{number of eye exams performed during the same period}} \dots[5.7]$$

$$\text{Revenue each eyewear sale generate} = \frac{\text{total sales revenue from eyewear dispensed}}{\text{number of pairs dispensed in same time period}} \dots[5.8]$$

$$\text{Gross profit on eyewear sales} = \frac{\text{eyewear sales revenue} - \text{cost of goods}}{\text{eyewear sales revenue}} \dots[5.9]$$

Table 8: Practice X product related norms versus the typical practice

	Practice X	The typical practice
[5.7] Eyewear rxes per 100 eye exams	97	50
[5.8] Revenue each eyewear sale generates	R1556 (\$212)	R1663 (\$227)
[5.9] Gross profit on eyewear sales	50%	Margin 50%-70%

Table 8 compares practice X's product related ratios to the typical industry norms.



5.5.1 Eyewear prescriptions (rxes) per 100 eye exams

Practices with a ratio of below 50 pairs per 100 exams have to examine how their frames are currently displayed as well as presentation process of their eyewear. Practice X has a ratio well above the typical practice ratio therefore its eyewear displays and the presentation process is deemed sufficient.

5.5.2 Revenue each eyewear sale generates

Although practice X's ratio is very close to the norms, increasing the average eyewear sales is an efficient way to increase the practice's revenue. Since practice X needs to increase their revenue this is good area for improvement.

5.5.3 Gross profit margin

A practice achieves a higher gross profit by increasing the volume of sales in frames and lenses instead of increasing their mark-up. Practice X cannot increase their mark-ups, since it needs to stay in the same price range as other competitors in order to maintain clients. As mentioned in section 5.5.2, increasing sales should be the main focus to improve the gross profit margin.



6 Breakeven Analysis

6.1 Introduction

The current status of the practice's financial cash flows can be seen in Appendix A. This figure displays the sales, cost of sales, expenses and interest paid in 2010 and the beginning of 2011. The peak and off-peak seasons are identified in the figure. Peak season is January, February, March, April, October, November and December. The optometry practice's sales do not cover cost of sales, expenses and interest paid and therefore it currently has an annual net loss of –R 445, 596.58. The practice is not breaking even, therefore, the turnover should be increased to cover expenses and stay in control of liabilities.

6.2 Calculations

The following equations were used to calculate the monthly average of current net sales, the break even net sales and eye exams per week which is summarised in Table 9.

$$\text{Gross profit \% on sales} = \frac{\text{Sales} - \text{Cost of Sales}}{\text{Sales}} \dots[6.1]$$

$$\text{Monthly average of current net sales} = \text{average monthly sales of peak/off-peak season} \dots[6.2]$$

$$\text{Minimal monthly turnover} = \frac{\text{Average Monthly Expenses} + \text{monthly interest payable}}{\text{gross profit \% on sales monthly} \dots[6.1]} \dots[6.3]$$

$$\text{Monthly average of breakeven net sales} = \frac{\sum_{k=i}^n \text{month } i \text{ turnover} \dots[6.3]}{n \text{ months}} \dots[6.4]$$

$$\text{Current amount of eye exams per week} = \left(\frac{\text{Monthly average of current net sales}}{\text{Gross per exam}} \right) / 4 \dots[6.5]$$

$$\text{Eye exams needed per week to breakeven} = \left(\frac{\text{Monthly average of breakeven net sales}}{\text{Gross per exam}} \right) / 4 \dots[6.6]$$



The minimal monthly turnover was firstly calculated for each month using equation [6.3]. The minimal monthly turnover values are illustrated in a excel spreadsheet format for each month of 2010 in Appendix B. Next the average breakeven net sales per month were calculated for peak season and for off-peak season using equation [6.4]. For peak season (January, February, March, April, October, November and December) equation [6.4] was used by adding each of these peak season months' minimal turnover and dividing it by the amount of months (seven months for peak season). The same was done for off-peak season. Now we have the average breakeven net sales per month for a specific season (peak season or off-peak season). Equation [6.6] is now used to determine the weekly eye exams needed to reach the monthly average breakeven point just calculated. This is done by taking the monthly average of breakeven net sales and dividing it by the gross per exam which is R1603 for practice X. This provides the amount of eye exams needed per month to break even for that specific season and by dividing it by four it provides the eye exams needed per week to breakeven. A similar calculation is done to determine the current average amount of eye exams practice X does per week. In this case equation [6.5] is used and the actual average monthly sales for peak season or off season are used. Table 9 summarizes the results of these calculations for peak season and off-peak season.

Currently practice X has only 22 and 20 eye exams per week for the peak season and off-peak season respectively. In order to break even in peak season and off-peak season eye exams completed should increase to 34 and 30 respectively. Healthman, which is an active company in healthcare (Richter, 2007) did a presentation, "The economics of healthcare", at the South African Optometric Association (SAOA) congress in 2006 based on surveys distributed to 320 registered optometrists in South Africa. The provided the benchmark of 39 eye exams per week as the norms for optometry practices in South Africa. When practice X is able to breakeven the next goal would be to achieve the 39 exams per week benchmark. Achieving this benchmark can provide practice X with an annual revenue of R3,000, 816, based on R1603 gross revenue per eye exam.



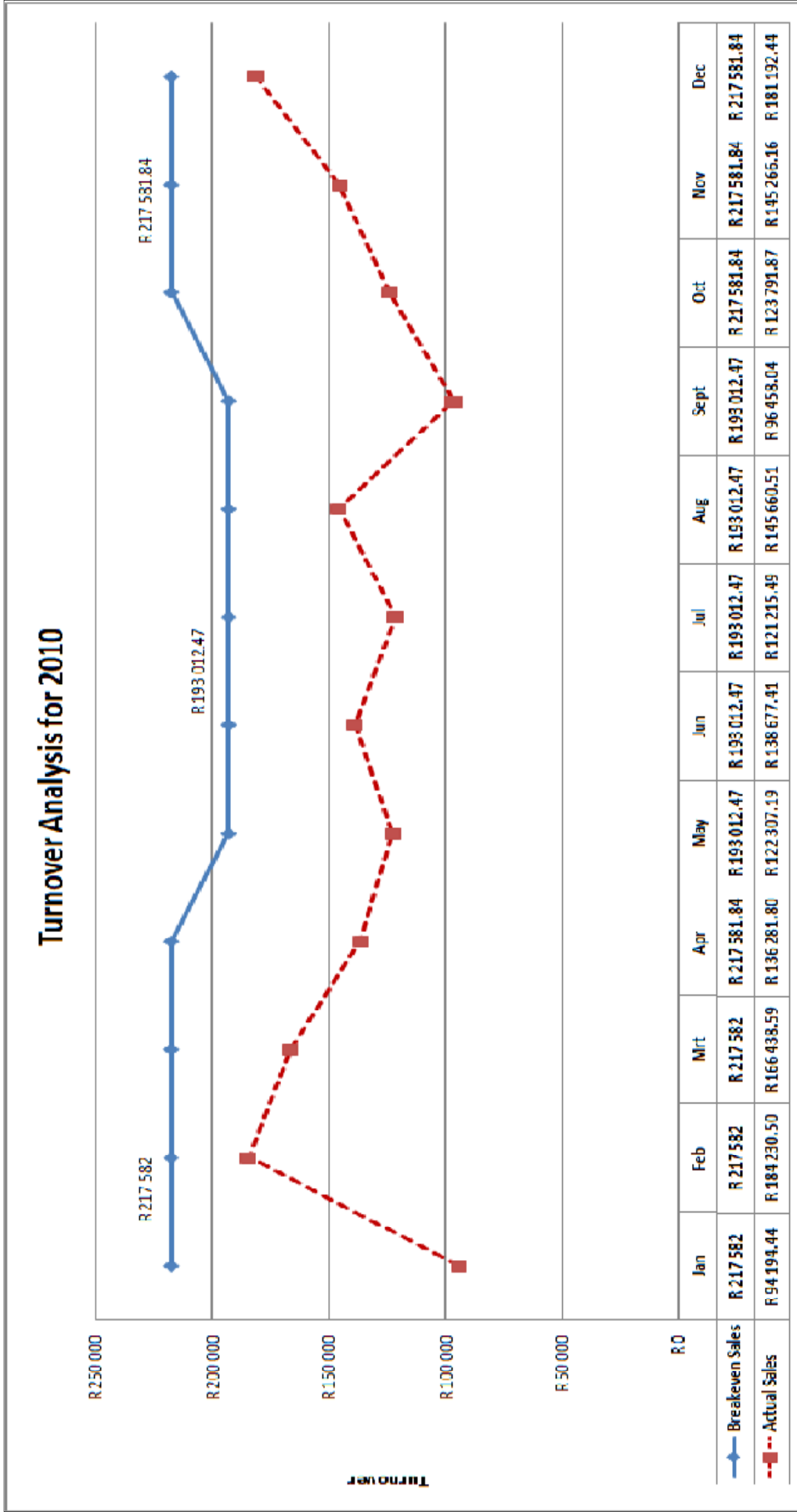
Table 9: Net sales and eye exams per week

2010	[6.2] Monthly average of current net sales	[6.3] Monthly average of breakeven net sales required	Eye Exams per week		
			[6.5] Currently in practice X	[6.6] Required to break even	S.A. benchmark
Peak Season	R 139 095	R 217 582	22	34	39
Off-peak season	R 124 864	R 193 012	20	30	

Figure 5 illustrates the break even analysis for 2010 that differs in peak season and off-peak season. The break even net sales are higher during peak season than for off-peak season. This is likely due to an increase in sales of sunglasses during the months in summer.



Figure 5: Turnover analysis for 2010 with breakeven sales illustrated seasonally





7 Sensitivity analysis

7.1 Introduction

As stated in section 5 there is evidence that the U.S. benchmarks can be used as a relatively good approximation of how an optometry practice's performance ought to be in South Africa. The following sensitivity analysis was done in order to determine the implication of an inaccurate benchmark on the goals set for practice X. The analysis is based on the gross revenue per exam as well as the amount of eye exams needed to achieve the practice's breakeven sales.

7.2 Calculations

Equation [6.6] was used to determine the data in Table 10 which consist of alternative gross revenues per exam in order to determine the error margin for the U.S. benchmark. The data in Table 10 is based on 2010 breakeven sales. The same sensitivity analysis can be done for 2011 by using the 2011 break even sales and new gross revenue per exam in equation [6.6] when 2011 data becomes available. Each alternative gross revenue option is displayed with its relating number of eye exams required per week to break even, in terms of peak season and off-peak season. The position of the U.S. benchmarks and the current gross revenue of practice X are highlighted.

The number of eye exams needed to break even for the U.S. benchmark (e) compared to practice X's current requirement (h) is 5 exams less per week for peak season and off-peak season. In order to conform to industry norms practice X should strive to achieve a gross revenue per exam of R1, 905. Achieving this gross revenue per exam will enable them to break even with 5 less eye exams per week than eye exams needed currently with practice X's gross revenue per exam (R1603). If the U.S. benchmark is inaccurate and the average gross revenue per exam should hypothetically be an alternative value identified as R1, 800 (f), eye exams per week needed, will be one more than the U.S benchmark identifies (e). Note that for the different gross per exams values in peak season the difference between (a), (b), (c) and (d) is only one exam. The difference between (d), (e) is two exams and between (h), (j), (k), (l) and (m) is three exams. This can suggest that if the U.S. benchmark is too low, with regards to the S.A. optometry industry, and should be higher, the impact on the amount of exams needed to break even will not be too disruptive. If the benchmark is too high, and should be lower for the S.A. industry, the impact could possibly be larger since more exams is needed which means more clients is needed.



Table 10: Sensitivity analysis data

	Gross revenue per eye exam	Eye exams required per week to break even	
		Peak season	Off-peak season
Alternative possibilities for gross revenue per exam	(a) R2,300	24	21
	(b) R2,200	25	22
	(c) R2,100	26	23
	(d) R2,000	27	24
U.S. average benchmark for gross revenue per exam	(e) R1,905	29	25
Alternative possibilities for gross revenue per exam	(f) R1,800	30	27
	(g) R1,700	32	28
Practice X's gross revenue per exam currently	(h) R1,603	34	30
Alternative possibilities for gross revenue per exam	(j) R1,500	36	32
	(k) R1,400	39	34
	(l) R1,300	42	37
	(m) R1,200	45	40



8 Improving procedures of an optometry practice

8.1 Introduction

In order for practice X to breakeven as soon as possible and achieve a net income of average 33% (Gailmard, 2007) of the revenue in near future, the following areas can be considered for improvement.

8.2 Increasing revenue

Increasing revenue is the ultimate way to increase a practice's net income. In order to do this the practice's client base needs to expand. The following areas can be considered for improvement with a possible result of a continuous growing client base in the future.

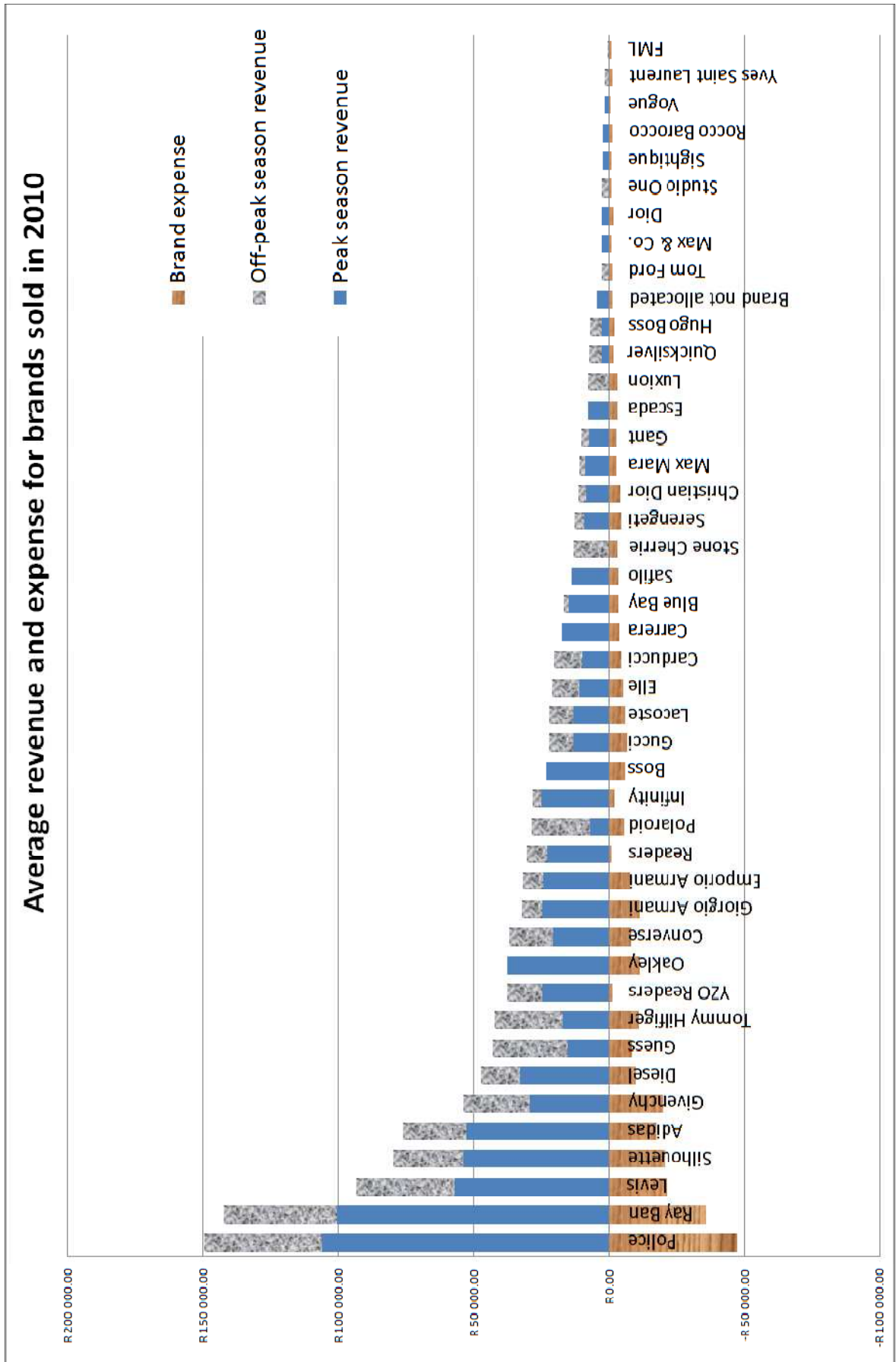
8.2.1 **Frame displays and frame mixes**

According to Gailmard (2004) it is important to have a large range of eyewear options on display. If there is nothing the client is interested in, then the client will possibly go elsewhere. Currently, practice X displays about 784 frames (minimum) and a maximum of 979 frames. It is important for practice X to always display the maximum amount of frames possible. It could also be beneficial to expand their display with a few hundred extra frames. "A large frame inventory is a business investment that will provide you with an excellent return. Base your inventory on the amount of frames you hope to sell in a year, not your number of "inventory turns" (the number of frames sold in a year divided by the number kept in inventory). At least 1,000 frames, although 2,000 is far better" (Gailmard, 2004). Practice X can attempt to expand their displays to about 1200 frames in the first year depending on the space available in the practice. Increasing sales should be one of the major goals, thus increasing the frame displays is a good place to start.

As mentioned in section 5.5.1, practice X has satisfactory frame mix displays, but in any instance there is an optimal setting. Figure 6 ranks the brand names sold during the year of 2010 in terms of highest revenue generated to lowest revenue generated. The figure illustrates the separate revenues generated in peak season and in off-peak season for each brand, as well as the average expenses tied to each brand. In peak season the revenue is higher than in off-peak season, possibly because more sunglasses are sold in the summer months.



Figure 6: Average revenue and expense for brands sold in 2010





From figure 6 it was possible to construct Table 11 that illustrates the optimal number frame brands that should be on display according to the 2010 sales data. The number of frames per brand was calculated by setting the brand name that sold the least frames as one (FML) and calculating the fractions of other brands sold in 2010 in relation to that brand (FML).

Table 11: Optimal brand fractions

	Peak season frames	Off-Peak season frames
Police	139	109
Ray Ban	132	105
Levis	75	91
Silhouette	70	65
Adidas	69	60
Givenchy	39	61
Diesel	43	36
Guess	20	70
Tommy Hilfiger	22	64
YZO Readers	32	33
Oakley	49	0
Converse	27	41
Giorgio Armani	32	19
Emporio Armani	32	19
Readers	30	20
Polaroid	9	55
Infinity	33	8
Boss	30	0
Gucci	17	21
Lacoste	17	21
Elle	14	24
Carducci	13	27
Carrera	23	0
Blue Bay	20	4
Safilo	18	0
Stone Cherrie	0	33
Serengeti	12	10
Christian Dior	11	8
Max Mara	11	6
Gant	10	7
Escada	10	0
Luxion	0	19
Quicksilver	3	12
Hugo Boss	3	10
Brand not allocated	6	0
Tom Ford	0	7
Max & Co.	3	0
Dior	3	0
Studio One	0	6
Sightique	3	0
Rocco Barocco	3	0
Vogue	2	0
Yves Saint Laurent	0	4
FML	1	1



8.2.2 Marketing

According to Hayes Consulting a practice management consulting firm in Ponte Vedra Beach, Fla (cited by Shaw-McMinn, 2005) most optometry practices spend only 0.5 % – 1.5% on marketing, contrary to the 4%-7% of most other industries. Gerber (2005) says that 5%- 20% of an optometry practice's total gross revenue is generated from 2% income invested in marketing.

Practice X spends about 2% on marketing. The marketing is done broadly as an optometry service brand by their franchise therefore the particular practice itself does not get primary exposure. Consequently, they need to spend more on individual marketing in order to reach the criteria of generating at least between 5%-20% of their gross revenue due to marketing. If practice X engages in private marketing as well it can possibly attract more clients which are what they primarily need at the moment.

8.2.2.1 *Marketing plan development*

It is essential to make use of marketing procedures that can be tracked. This will enable practice X to have control over their marketing procedures and expenses and eliminate those that provide an unsatisfactory return on the money invested.

Internal marketing

Referral marketing is based on clients referring others to a practice they visited. This is probably one of the most effective and least-cost approaches that practice X can follow. This can be done through literally asking a happy patient during routine eye exams to refer the practice to others or placing a sign in the exam room saying, "Rather than spending money on expensive advertising, we would rather spend it on ways to provide you better eye care. To help us do that, if you are pleased with our services, simply tell others about us."(Girard, 2011) Quality service and client-centerism will also boost referrals.

External marketing

An apparent type of marketing most people would resort to is printed, radio and television advertisements, but modern technology provides other effective ways of marketing an optometry practice. Practice X can make use of the internet in order to maintain their existing client base and also attract more clients in one of the following ways:



- **Optometry practice website**

Practice X does not have a personal website. The website should consist of all details concerning the practice and could also provide a service for clients to be able to order replacements for example for their contact lenses. It can also provide a way for clients to register themselves and their medical aid on the website before going to an eye exam, which eliminates some of the paperwork that needs to be done by staff. The website can assist in clients scheduling appointments; inform clients of business hours and also promotions available seasonally.

- **Email**

Practice X can have a monthly newsletter sent out to the client base which should consist of news of the practice, new specials and or discounts, as well as information about new services the practice is providing. By keeping in touch, the practice continuously remind clients of their existence and when the time comes for a possible follow up examination or new eyewear, the client will remember practice X. According to Lewis (2009) research have shown that 70 % of clients read newsletters sent by email, because it seems like important information. Emails could also include special offers to clients that refer others to practice X.

- **Business cards**

Business cards should be used at anytime that it's appropriate. Attach it to any invoice or information pamphlets sent to clients.

- **Get involved in the community**

Involvement in the community can be very beneficial to practice X. Spending time on committees, religious groups and doing free vision screenings at schools and universities can potentially attract new clients.

- **Attracting new clients based on location**

Many people choose services based on the close proximity to their home. Something for practice X to try is to choose, for instance, 1000 houses that are close to the practice and send them a letter that introduces the practice and its services and explains the convenience of the location of the practice. Shaw-McMinn (2005) states that direct mail is more effective than advertising, since the client first needs to open the mail in order to determine if it should be thrown away. The U.S. Postal Service



Direct Mail Kit (cited by Shaw-McMinn, 2005) also claims that a practice can expect gross return of 10 times more on its investment from 4 direct mails per year. Practice X is not the only optometry practice in the area, therefore it is essential to state clearly on all direct mails practice X's name and specific directions to the practice.

- **Text messages**

Sending text messages to clients as reminders of appointments or as notification of specials can be very beneficial and almost cost free when sent in bulk. This type of technology is used by many small businesses that provide a service.

To determine what type of marketing is most rewarding to practice X, include a question on a new client's information form asking how they found out about practice X. Add the amount the client has spent at practice X and after a year the optometrist can determine what marketing strategies is the most beneficial to the practice and should be continued or improved. This will indicate if the practice's expense on certain marketing criteria is sensible. Practice X should expect to receive 10 times more in gross revenue than contributed to marketing according to Shaw-McMinn (2005).

8.2.3 The recall system

8.2.3.1 Recall starts with the first appointment

It's essential for the optometrist and staff to continuously mention the next visit to a client, in order to convince a client of the importance of another visit, whether it is next week or next year.

8.2.3.2 Follow up appointments

Clients should not leave without scheduling their following appointment. If it is scheduled months away, a staff member should explain that a reminder call or message will be sent to them a week before their scheduled appointment, thus not alarming the client of the fact that it's still considerable time before the next appointment. If it's a week before the client's scheduled appointment and the time or date is inconvenient it can easily be rescheduled and the appointment does not fall through (Bennett, 2003). Also make use of text messages, letters and phone calls as reminders of routine checkups.



8.2.3.3 Missed appointments

If a client misses an appointment without prior notice it is essential to have a staff member call the client to reschedule. The extra effort will increase the amount of clients the optometrist sees and, therefore, lead to an increase in profits according to Girard (2011). It should be considered whether to charge for missed appointments to minimise the costs that correspond with potential revenue the appointment could have generated.

8.2.3.4 Keeping recall records

Recall records should be kept in order to access and keep track of potential recall clients. It should preferably be computerised to simplify the type of communication sent to various types of recall clients.

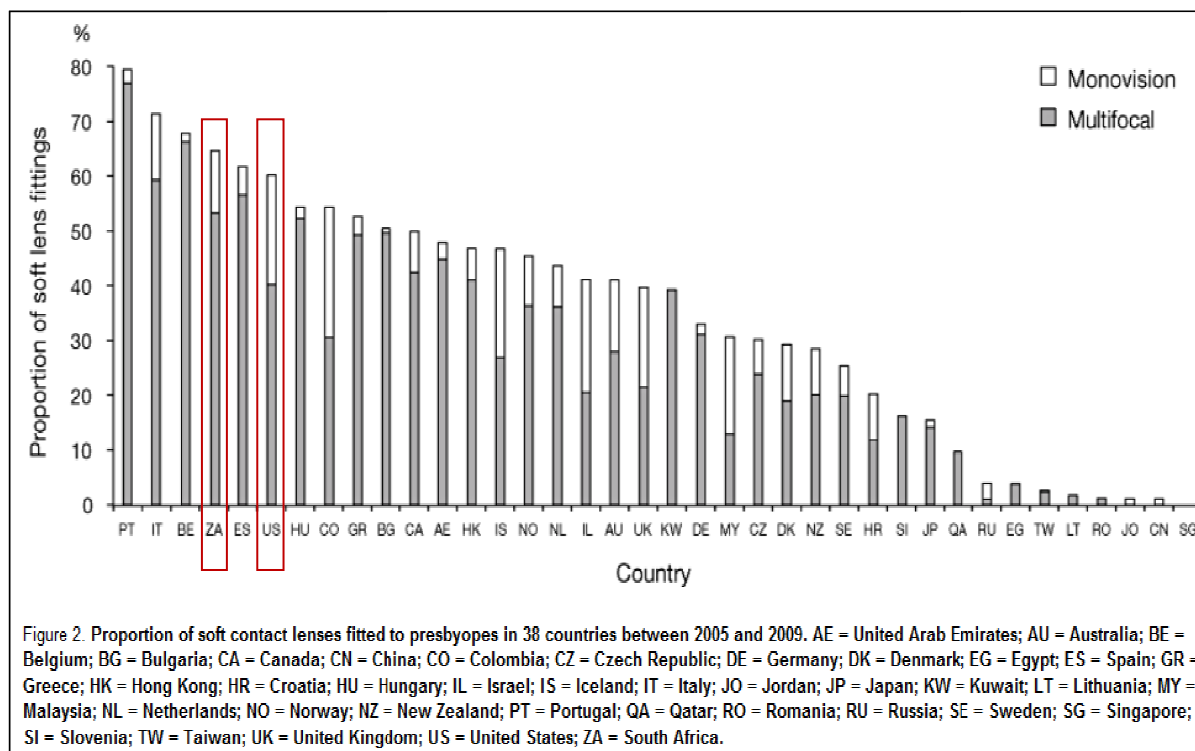
8.2.4 Grow contact lenses base

Currently only 8% of practice X's revenue is generated from contact lenses sales. According to Jobson optical research (cited by Kirby, 2004) 22% of adults of the age 18 years and up makes use of contact lenses either full time, part time or occasionally. John Hanson (Eyesite Magazine, 2011), mentions that the future for contact lenses in South Africa looks very bright.

Although the MBA guide is U.S. based data, it is still applicable to South Africa, including the contact lenses market (Morgan, *et al.*, 2011). Figure 7, displays the proportion of contact lens fittings done from 2005 until 2009 in 38 different countries. About 1000 surveys were sent to randomly selected practitioners in each country, annually, in order to determine the global fitting outline of contact lenses (Morgan, *et al.*, 2011). As seen in Figure 7, South Africa's market is very close to the U.S. market for contact lens fittings.



Figure 7: Proportions of contact lens fittings in 38 countries



(Morgan, *et al.*, 2011)

Consequently, there is a big market for contact lenses in South Africa and this should be exploited by practice X as much as possible in order to increase their revenue generated from contact lenses to 22% (Gailmard, *et al.*, 2010).

8.2.4.1 Fees should be reasonable

Charge the applicable fees for the first pair of lenses and charge less for replacement lenses. This is the best way to maintain initial clients and compete with competitors according to Brooks (2000).

8.2.4.2 Don't make assumptions

Never assume what a client is willing or not willing to pay. People have different priorities and, thus, it cannot be assumed that different people's willingness to spend money on a specific object or service will be the same. It is important to provide all options to a client, even if they seem unwilling to spend much on contact lenses and let them bring up the question of cost themselves.

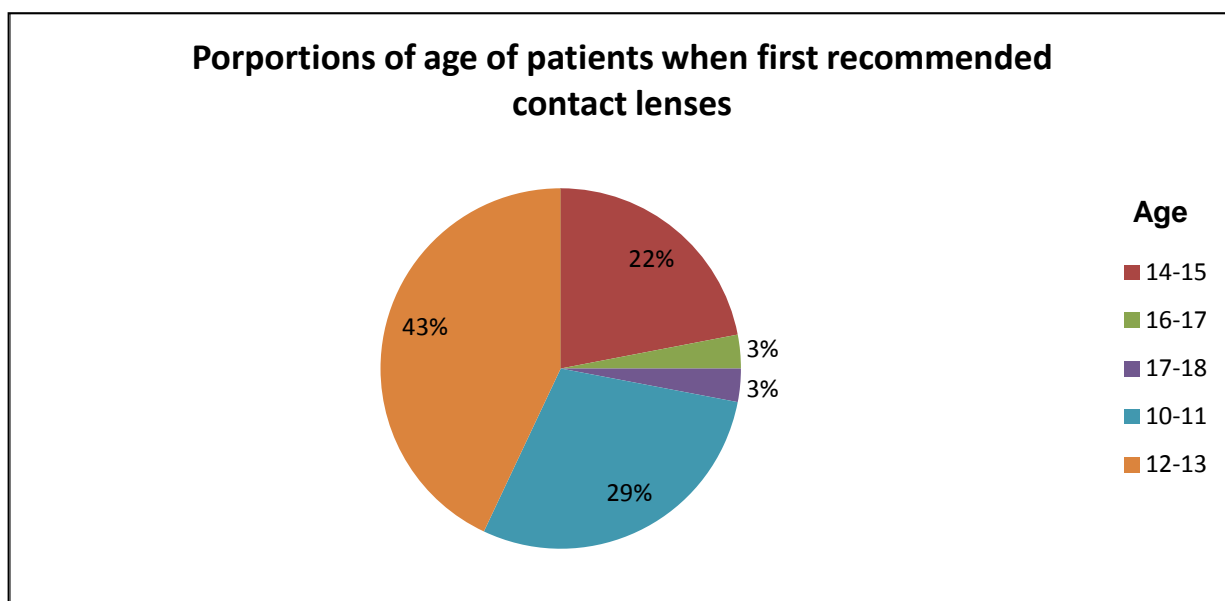
8.2.4.3 Cater for children

Catering for children can enable practice X to be the first exposure a child gets to an optometry practice. This creates possibilities for practice X to increase its patient base



for the future as well, since the child is likely to return to the practice as an adult if the service was satisfying. See Figure 8 for the ages when contact lenses are typically recommended first. Investing in screening at schools (especially at primary schools) as mentioned in the marketing section, can attract future clients to the practice. The data was collected by an email survey of including 440 practitioners (Gailmard, 2000)

Figure 8: Age of patients when first recommended contact lenses



8.2.4.4 Provide guaranteed services

Clients are often fearful of trying contact lenses due to loss in money if it is unsuccessful. Practice X should try and maintain a policy of a full return on professional fees in the case of unsuccessful contact lenses. This may seem very risky, but according to Brooks (2000) their refunds were shifted from a 50% return to a 100% return and consequently it doubled their contact lens fits with only a few full refunds.

8.2.4.5 Keep up to date with new products

Ask suppliers about new developments and communicate these options to clients even if they are spectacle wearers. Sales representatives also on occasion provide free items that can be mailed to clients. Also include these new developments in the practice's newsletter, brochures and reminder cards etc. as discussed. "One recent mailing brought us dosens of new fits, and even served as a recall letter to other patients who had not returned". (Brooks, 2000)



9 Risk Analysis

9.1 Introduction

Currently practice X is provided with franchise benefits, such as discounts from suppliers on specific frame brands and also the receipt of frames on consignment. A risk analysis was done to determine the impact on the practice should these benefits be revoked and to suggest management procedures to recover from such a setback.

The identified risks are the loss of franchise benefits regarding the receipt consignment opportunities and discounts on certain frames from suppliers.

9.2 Lack of supplier discounts

The following table summarises certain areas of practice X's financial reports of 2010 as well as the discounts received and influence on the net income and cost of sales. Table 12 displays the annual cost of frames, lenses, contact lenses and the discounts received from suppliers for each of these entities due to franchise benefits. It displays the total cost of goods for 2010 in terms of supplier discounts included, supplier discount not included and the variation of these values which is R84 746. The percentage that cost of goods contributes to practice X's expense is currently 42% (with supplier discounts), without supplier discounts the cost of goods percentage of expenses will increase by an average 6 %, which totals at 48 % for potential cost of goods without supplier discounts. This will influence the net income with a variation difference of an additional expense of R84 746. For a practice which is operating at an annual loss net income, this additional expense could probably put extra pressure on the practice in terms of paying its debt and goal of becoming profitable.



Table 12: Financial influence without supplier discounts

	Cost of Sales for 2010	
	Cost	Discount Received
Frames	R283,066.10	R13,557.09
Lenses	R262,061.26	R64,518.58
Contact Lenses	R 58,807.23	R 6,670.15

	With supplier discounts	Without supplier discounts	Variation difference
Total cost of goods for 2010	R561, 890	R 646, 636	R84,746
Total sales 2010	R1, 335, 956	R1, 335, 955.66	
Cost of goods % of Expenses	42%	48.43%	6.38%
Annual net income for 2010	-R445, 597	-R 530 342	R84, 746

9.2.1 Assess risk and plan risk response

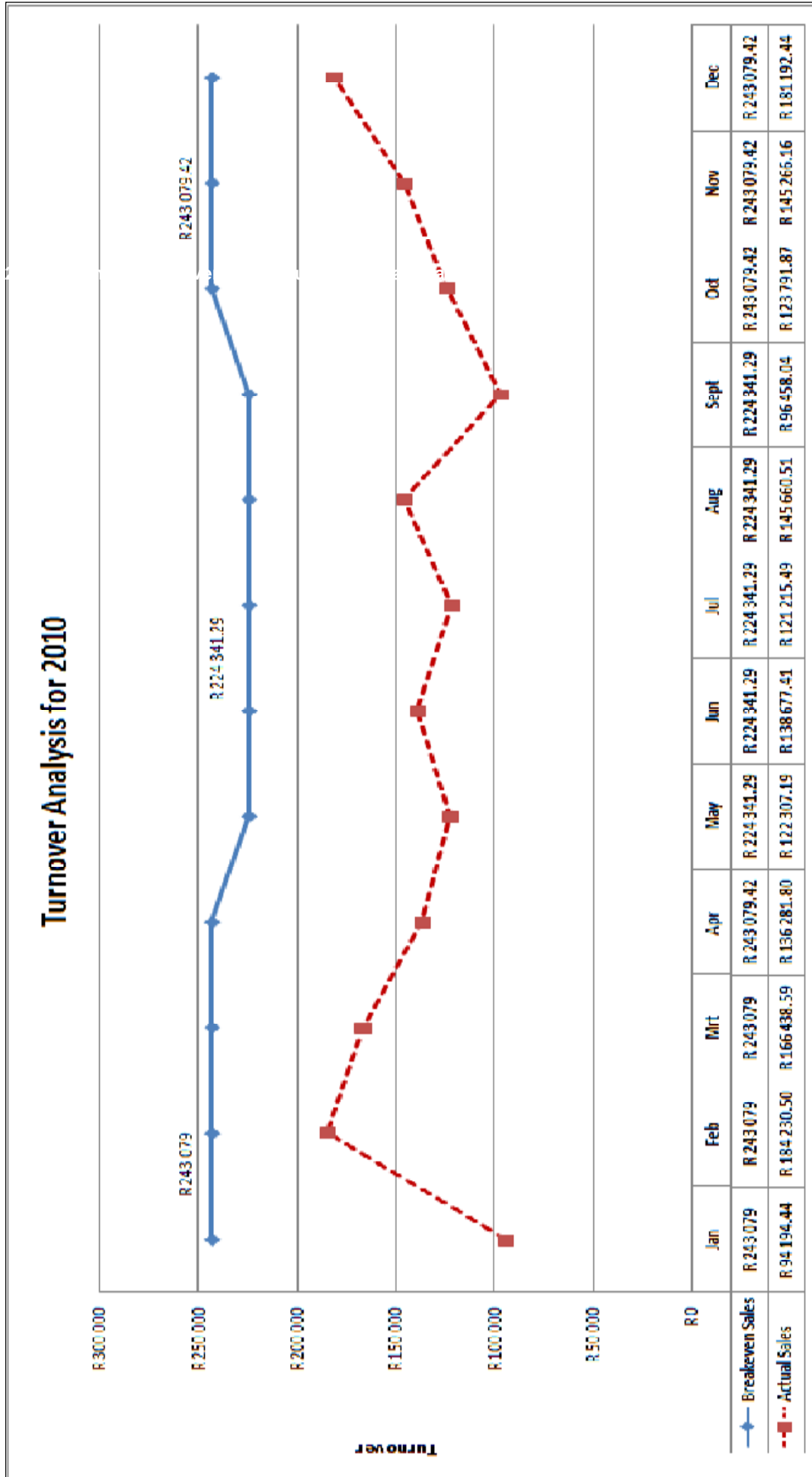
In order to manage these changes a new monthly average of breakeven net sales is required in order to determine the new amount of eye exams necessary per week. This was calculated and recorded in Table 13.

Table 13: Amount of eye exams per week required without supplier discounts

2010	[6.2] Monthly average of current net sales without discounts	[6.3]Monthly average of breakeven net sales	Eye Exams per week	
			[6.5]Currently in practice X	[6.6]Required to break even
Peak Season	R 139 095	R 243 079	22	38
Off-peak season	R 124 864	R 224 341	20	35

The new breakeven net sales for peak season and off-peak season required in accordance with net sales are illustrated in Figure 9 on the page to follow. In peak and off-peak season the break even sales is R25, 497 and R31, 329 respectively more than what is required with supplier discounts currently.

Figure 9: Turnover analysis for 2010 with new breakeven sales illustrated seasonally





9.2.2 Control and monitor risk

In order to achieve the new break-even point illustrated without supplier discount benefits practice X will have to focus even more on attracting more clients in order to increase their revenue.

9.3 Lack of frame consignment

Table 14 summarises the total cost of frame sales, cost of consignment frames and cost of non-consignment frames for 2010. It also displays the percentage contribution of consignment frames and non-consignment frames to the overall cost of sales for frames sold in 2010.

Table 14: Financial influence without frames on consignment

Total Cost of sales for frames in 2010	Cost of Consignment frames	Cost of Non-Consignment frames
R283, 066.10	R147, 194.37	R135, 871.73
% of Cost of sales for frames	52%	48%

Specific data regarding frames received on consignment and not sold are not clear enough to use in the risk analysis. There is no exact return schedule practice X follows or data on the amount of returns. The empty frame displays are filled as needed. Therefore the following assumptions were made for the risk analysis:

- Frames on consignment not sold are swapped monthly
- The ratios of 52% consignment and 48% non-consignment frames on display remains the same each month

9.3.1 Asses risk and plan response

The following equation was used to determine the cash flow that will possibly be needed at the beginning of each month to fill the displays that was covered by consignment frames.

$$\text{Cash flow needed monthly without consignment} = \frac{\text{Cost of consignment frames annually}}{12} \dots [9.1]$$

The extra cash flow needed monthly without consignment resulted in R12 266.



9.3.2 Control and monitor risks

With regards to losing the benefit of receiving frames on consignment practice X will require an extra cash flow of average R 12 266 that has to be available at the beginning of each month in order to stock the frames that will be sold during that month. This does not include the frames on consignment that is left unsold for the month and swopped at the supplier. Unfortunately the cash amount for frames received on consignment and swopped cannot be determined from the data of practice X. It can be stated though that when including the unsold frames to the cash flow required at the beginning of each month (R12 266) can possibly grow with a large amount. If practice X desires to accurately determine the impact of loss of frames on consignment, data regarding the cash amounts of frames received on consignment and swopped should be recorded more accurately.



10 Conclusion and recommendations

The literature on South African optometry is limited, hence optometry industry benchmarks to measure practice X's performance is not available. It was found that U.S. based benchmarks from The Management Business Academy booklet (Gailmard, 2010) is a good approximation of what South African benchmarks should be. The student was able to measure practice X's performance and identify procedures that can be improved within the practice. Implementing these improved procedures could possibly enable practice X to accelerate the journey towards breaking even and becoming profitable.

In order for practice X to become more profitable, the major barrier at present is the size of the client base. Contact lens sales should be increased, since there is a good market for it in South Africa. It is also essential for practice X to attract more clients in general as soon as possible in order to increase their revenue to breakeven and ultimately become profitable.

Practice X can successfully maintain the seven habits of effective optometrists by considering the following recommendations.

10.1 Clients-centrism

Practice X should focus on improving their client-centrism even more by:

- Improving the recall system
- Having a personal marketing strategy

10.2 Management by performance metrics

It can be very beneficial for practice X to continuously measure the practice's performance in order to make more informed decisions for the future and also to easily identify problem areas. Practice X should attempt to measure their performance annually and keep record of their results. The following metrics can be beneficial to measure annually:

- Revenue mix
- Revenue generated per exam
- Expense categories



10.3 Setting goals

Long term goal:

Performance vision

- Practice X should breakeven as soon as possible
- Increase their net income to an average 33% of their gross revenue for the years to follow after they have broken even
- strive to perform 39 eye exams per week according to the South African norms

Short term goal:

Milestones in order to achieve performance vision

- Increase marketing effort
- Grow the contact lens client base
- Improve recall system
- Optimise frame mixes
- Get involved with the community
- Increase customer satisfaction by building quality relationship and improving service.
- Set up a personal website for practice X

10.4 Efficient time use

When practice X grows in such a way that the amount of eye exams increases to 39, the habit of efficient time use can be incorporated.

10.5 Implementing leadership

Practice X has good staff relationships, but it can be beneficial to include the staff members in the practice's goals by giving each member a specific measurement that they should monitor throughout the year.

10.6 Taking risks

Changing the routine of optometry practice X can be difficult at first and may hold some risk, but adapting to a new routine now in order to possibly optimise the practice for the future can possibly be very rewarding.

10.7 Continuous improvement

To maintain a successful marketing strategy it should be continued and monitored throughout the year. Also by using metrics practice X can continuously evaluate their performance and make informed decisions for the future.



11 Reflection

The report enabled me to engage in a professional manner with the owner of the optometry practice on which the study was done. I learned how to thoroughly research a topic and put all the pieces together in a structured manner in order to be presentable and understandable. In future engineering projects I will be able to use skills learned during this process. I realised that one of the most important skills is to have a very structured plan at the beginning of your project, but it must be flexible enough to be able to adapt to change completely. My approach to the project changed continuously due to the research materials I found throughout the process, which finally provided me with the final structure of this report. The project was also very economics and business management based, which was challenging at times, but achievable. I found the topic extremely interesting though, since I was able to apply my engineering knowledge gained over the last four years practically, economical and theoretical. I found the process of completing this report very rewarding personally.



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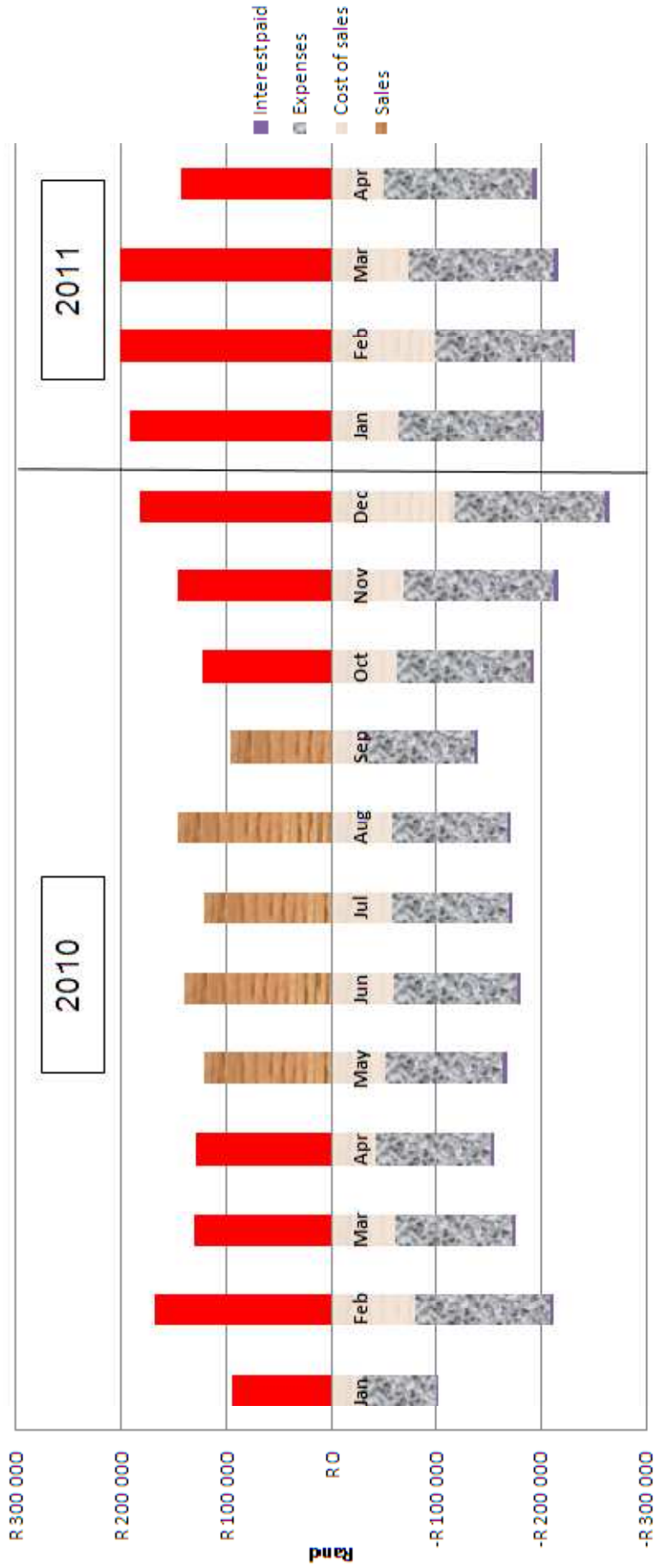
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13 Appendix A: Income and Expenses of practice X



Sales, cost of sales, expenses and interest paid for the year of 2010 and 2011



Peak season identified in red



14 Appendix B: Excel spreadsheet with calculated values for minimal monthly turnover



2010												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sales	R 94 194	R 157 834	R 131 115	R 130 272	R 112 307	R 138 677	R 121 215	R 145 661	F 96 453	R 123 791	R 145 266	R 181 192
Cost of Sales	-R 23 224	-R 30 676	-R 61 750	-R 41 664	-R 52 182	-R 59 597	-R 57 377	-F 57 373	-F 28 392	-R 61 373	-R 65 637	-R 76 539
	-31.02%	-48.07%	-47.10%	-31.98%	-42.56%	-42.97%	-47.33%	-39.39%	-29.43%	-49.53%	-45.18%	-42.24%
Gross profit	R 64 971	R 37 159	R 69 365	R 88 050	R 70 125	R 79 081	R 63 839	F 88 287	F 65 302	R 61 430	R 75 864	R 63 682
Other income		R 3		R 0	R 160	-R 25		R 5	R 0		R 4	R 8
Expenses	-R 71 760	-R 128 739	-R 110 733	-R 108 983	-R 111 314	-R 117 873	-R 111 441	-R 109 545	-R 104 000	-R 126 552	-R 143 431	-R 138 485
Interest paid	-R 8	-R 3 500	-R 3 455	-R 2 852	-R 3 483	-R 3 441	-R 3 519	-R 3 657	-R 1 953	-R 2 604	-R 1 075	R 40 887
Net loss before I paid	R 5 789	R 41 578	R 41 568	F 20 934	R 41 030	R 38 817	R 47 602	F 21 254	F 38 698	R 65 522	R 65 563	R 78 652
Net profit loss	R 5 797	R 45 078	R 44 823	F 23 785	R 44 512	R 42 238	R 51 121	F 24 911	F 40 650	R 68 127	R 67 643	R 37 765
Ave monthly expense	R 71 750.00	R 128 739.09	R 110 733.07	R 108 983.39	R 111 313.92	R 117 872.53	R 111 440.64	R 109 546.22	R 105 999.50	R 126 952.39	R 143 430.69	R 138 484.66
Estimated monthly I payable	F 7.70	R 3 500.00	F 3 455.40	R 3 410.40	R 3 482.71	R 3 441.44	R 3 518.64	R 3 657.15	F 4 716.82	F 3 587.34	R 3 844.40	R 3 937.68
Gross profit %	55.00%	58.00%	51.00%	52.00%	62.00%	59.00%	59.00%	58.00%	59.00%	58.00%	58.00%	58.00%
Min monthly turnover required	F 130 436.73	R 227 998.43	R 223 898.95	R 216 141.90	R 185 155.85	R 205 617.07	R 194 846.24	R 195 178.22	R 194 264.95	R 225 068.50	R 253 922.57	R 245 553.76



15 Appendix C: Gantt chart of methodology timeline

