

THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD

A Committee of the Council of ICPAU

CPA(U) EXAMINATIONS

LEVEL FOUR

INTEGRATION OF KNOWLEDGE - PAPER 16

COMPREHENSIVE CASE STUDY

MORNING SESSION MATERIAL

TUESDAY, 07 DECEMBER 2010

INSTRUCTIONS TO CANDIDATES:

1. Time allowed: **6 hours**.
9.00 a.m. – 11.30 a.m. (2 hours 30 minutes): Planning.
11.30 a.m. – 12.30 p.m. (1 hour): Break.
12.30 noon – 4.00 p.m. (3 hours 30 minutes): Writing.
2. The following pages contain case study material.
3. The case study questions are contained in a separate paper marked Afternoon Session Material.
4. The completed answers and any working papers, clearly labelled working papers must be handed in at the end of the afternoon session. Where working papers form part of your answer, ensure that they are appropriately cross-referenced.
5. It is in your interest that you hand in all written material prepared during the examination.
6. Tables are provided on page 14.
7. Please read further instructions on the answer book, before attempting any question.

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Kipkat Bottlers Uganda Limited

Overview and Background

Kipkat Bottlers Uganda Limited (KBUL), a soft drinks manufacturer has a portfolio of three products. As at 31 December 2009, the company's annual turnover was Shs 20 billion generated by total assets which were in excess of Shs 17 billion and the paid up share capital of Shs 8.3 billion. The head office is in Kampala Industrial Area where all production and administrative functions are conducted.

The company was taken over nearly 10 years ago by Wallas and his wife after their return from exile. They had lived in Sweden for over two decades, a time when Uganda was ravaged by internal strife. While in Sweden, Wallas had worked with the National Bottling Company Ltd, a government owned entity controlling about 30% of the Swedish beverages market. With this wealth of experience, and the return to normalcy back home, the couple decided to return home and invest in their own country by starting their own company.

By the mid 1990s, government efforts were in high gear to attract private investors, as well as to sell off state owned enterprises under the then privatisation scheme. One of the key rallying points for the new government with support from multi lateral donor agencies was a private sector-led growth.

Company History

KBUL (formerly Uganda Cooperative Bottling Company; UCBC) was previously owned by the Uganda Farmers Cooperative Society (UFCS), with a 45% share holding and the Uganda Government with a majority 55% shareholding. The company had come into existence in the late 1970's as previous governments used cooperatives as a rallying point for economically empowering Ugandans. This effort is probably comparable to the current "bonna bagaggawale (prosperity for all)." All Ugandans especially farmers were being encouraged to join cooperatives since they provided the much needed market for agricultural products such as coffee and cotton. Most of the agricultural products that time were sold through cooperatives which had the exclusive rights to purchase those products. The company was run by the UFCS, with government playing an oversight role.

It was in pursuit of the above joint efforts that the Uganda Farmers Cooperative Society had started the UCBC. The company used to manufacture a beverage, bottled as a soda, and sold under the brand

Pine Soda. Given the country wide membership of the UFCS, the company was able to mobilise farmers to grow Pineapples (main raw material) especially in the central region of the country, after which they would then be bought at pre-agreed prices. A good relationship indeed existed between UCBC and the farmers who supplied inputs. The company would also supply suckers, pesticides and machinery to the farmers at subsidized prices. It would also guarantee loans to its farmers.

The company enjoyed massive success during the period 1978 to 1987, a time when government support was guaranteed, and cooperatives were a national priority. There was also a huge market with no major competitors in the sector except for a few imports from neighbouring countries, especially Kenya. This led the company into a false sense of security which persisted even when the signs started emerging that the new government policy had shifted towards a more liberalised trade regime.

UCBC neglected both product and market innovations. Nearly all managers were of a farming background with little or no formal training in management, while others were retired politicians appointed by government. By 1995, the company was in a big financial crisis. Losses had been incurred for six consecutive years, machinery was dilapidated, and the company was defaulting on its obligations with lenders. Management consultants were brought in after recommendations from the International Monetary Fund (IMF) and the World Bank, and they strongly recommended that the company be privatised. This was in line with the structural adjustment programmes that were being rolled out in a number of African countries. In the meantime, government as a majority owner, and of course mindful of the potential political backlash if the company were to fail, continued to subsidise the operations of UCBC until the late 1990's when privatisation plans were completed.

Fresh from exile, and armed with his Swedish Kronas¹, Mr. Wallas Wallace and his wife won the bid to buy UCBC in early 2000.

Post acquisition times

By mid-2002, the transition was almost complete. The company had changed names from UCBC to Kipkat Bottlers Uganda Limited (KBUL). Mr Wallas Wallace was now in charge as managing director (MD), with his wife as deputy MD and the sons; Brian Musoke and Gordon Ross

¹ Swedish Krona is the Swedish currency

heading the production and finance departments respectively. Mr. Wallas had come with a philosophy that radical changes were needed at the new company and this was already evident given the appointments in all key departments.

Mr. Wallace decided to reduce the number of factories located across the country. They were to be cut from four to one (to be based only in Kampala). This single factory located in the Kampala Industrial area was also to serve as the head office. Consequently the workforce was going to be reduced from over 700 to about 250 in the new set up. It was also hoped that with the introduction of a matrix reporting structure, there would be more flexibility and creativity at KBUL, and less need for staffing, since the few remaining staff would then be more productive. Some arguments were raised that since there were plans to increase the product base to at least three brands, massive staff reduction should not be considered, but this was overruled by Wallas. Ironically, Wallas was unable to clearly explain what he meant by the matrix structure, and how it would actually work at KBUL.

A good number of employees had been working with the company for almost their entire lives and were, therefore, devastated by the news of the looming massive layoffs. As a unionised organisation, there was a lot of resistance to the redundancies which culminated into several court battles that took nearly two years to close. The Supreme Court eventually ruled in favour of the new owners but staff still did not want to accept their fate. After a costly strike which led to staff arrests, prosecution and conviction, the workers realised that there was no hope of keeping the company at the size it was, and they reluctantly accepted the proposed changes. They also realised that there was a political game playing behind the scenes. "Why isn't the government protecting our interests?" They wondered.

The company's products

As part of the restructuring process, the range of products was expanded to three which have since been in production, albeit with varying degrees of success.

Pine Soda:

This has continued to be the flagship product. It was the real identity of the company as was the case before the new owners took control. The privatisation agreement had provided that this product be retained for at least ten years after the take over. The aim was to protect the farmers' who were still expected to supply produce to the company. Any attempts to get rid of the product would have affected the market

for farmers' produce, and there was no way this could have been accepted by government. The product enjoys a 26% market share in the beverages sector in Uganda and is widely distributed in the neighbouring countries.

Pine Water:

With the growth in the beverages industry, the company decided to make entry into the bottled water sector as an alternative choice to their soda. Earlier, a number of other companies had joined the sector with water emerging as a substitute to the sodas and beers. Although going by the name Pine, the water is naturally purified, carbonated and bottled. No significant market research was carried out prior to introducing the product. It was a case of..... “these guys selling water seem to be making money! Why can’t we introduce a product for this segment as well. Gordon says we have the money to finance this project, so why not go for it? ²” Brian, the production manager, had argued against the hurried introduction of new products, but he was overruled since he only held a small proportion of the voting power. None of the other managers could dare challenge the MD, even when he was clearly being irrational.

Pine Wine:

Given the massive availability of raw materials (pineapples), the company’s business development committee recommended the introduction of Pine Wine. This is a product targeting the middle class with market share expected to hit 12% by 2015.

Organisation structure and financial performance

The company operates under 4 divisions of production, finance, marketing and administration (see appendix 1). The production department was reorganised into three sub-divisions for each product, each headed by a junior manager. This arrangement drew further debate as to how the planned matrix structure was going to be rolled out eventually. Concerns were also raised by Brian regarding the need to review the efficiency of the entire production process. Quoting from his recently completed CPA course, Brian argued; “Changes in the organisation of the production department alone are not enough. We need to review the entire value creation process. He argued; we need to ensure that we create an excellent relationship with the farmers, subsidise their inputs, pesticides and even guarantee their loans for the purchase of machinery. This will increase our bargaining power, and ensure that the farmers are ‘locked in’, and also ensure that we have a guaranteed source of inputs. Look at Uganda Tobacco Company³ for instance, even though they are in a totally different sector, they have such a strong relationship with the farmers. In fact they contract the farmers at the beginning of the planting season! Why

² Quoting Mr Wallas Wallace during the meeting that approved the introduction of Pine Water.

can't we borrow a leaf from them? Yes it is costly, but then it will also guarantee us good quality pineapples.

We also need to invest more money in machinery, so as to be able to match the competitors in technology. I understand we are managing costs, but we must be mindful not to compromise on quality, all in the name of managing costs. Why should we continue to manage our raw materials and finished goods manually? We need to consider introduction of a quality control unit to ensure that all output is quality guaranteed. With the coming in force of the East African Common Market, there are numerous opportunities in the region which we need to take advantage of."

Although the changes were successful in reducing the overall cost base of the company, and provided valuable capital from the sale of the surplus factory sites, they had little effect on the declining sales revenue. The emerging competitors were more technologically advanced, and were more visible in the marketplace, owing to their vast marketing activities. Details regarding the financial performance of the company are provided in appendix 2.

General management issues

KBUL has four shareholders, who are also the senior managers and decision makers at the company. There is no board of directors since it is believed that the four are close enough to carry out their oversight role. The managing director has also argued before that, he does not see the need for a board since even if there was one, he would still be the majority shareholder, and all decisions would have to be sanctioned by him. He also argued against the need for external auditors as this was considered an unnecessary cost to the company at a time when every penny was needed. When asked about the need for auditors, he said "I have 100% trust in what Gordon does as the finance manager. Why should I antagonise our relationship by calling for external audit intervention? Besides, I am the principal signatory on all bank accounts, so I get to know when every penny leaves our coffers".

At close to 75 years of age, Wallas had severally talked about stepping down at the company and letting somebody else take over as MD. Of course this did not mean that he wanted to sell his shareholding, rather to go into retirement and remain only in an advisory capacity to

³ The Uganda Tobacco Company is a Cigarette manufacturer. The Company has strategic relationships with farmers who supply it with tobacco leaves.

the company. Wallas is an outspoken leader who people fear to challenge during management meetings. He enjoys being in control and having his presence felt. He is somebody who always wants to do things himself, and rarely delegates tasks however minor. Julie, the deputy MD, was considered the natural replacement, but doubts have been expressed over her decision making ability. She holds a diploma in fine art, but has a lot of hands-on experience in manufacturing having worked at a garments industry during their time in exile. She is considered better at implementing decisions, rather than as a front line leader.

Brian, the production manager, is the most influential manager at the company after his father. He is a young, energetic, articulate and confident man. He holds a bachelor's degree in commerce, and has recently completed his CPA (U). He has a wealth of ideas and innovations, but has not been very successful in getting support from the other managers, mainly owing to cost implications of his proposals. It is understood that Brian is the only person who has dared challenge his father's decisions at the company. His father refers to him as his "speed gun", and so his peers look at him with a bit of envy. He is the only person to whom the MD once in a while delegates tasks.

Gordon, the finance manager, is a graduate of business administration, and has not attempted to study for any professional qualification. He has been a good resource to the company regarding measures to control costs. However, a lot needs to be done in his department because a number of internal control weaknesses are prevalent in the department. Unfortunately, there has been no external audit conducted since the company was taken over. So, most of these concerns are not formally brought to the attention of the management committee. For example, senior staff only remit pay as you earn (PAYE) on their basic salary, yet they get several other benefits including chauffeur-driven cars, housing allowances, as well as school fees support for their children. No social security contributions are made for staff, and the company has no internally run pension scheme. The MD has also previously complained about the absence of management accounting information to guide some of the strategic decisions. For example, performance of individual products in terms of revenue, variable and fixed costs incurred, general profit contributions, etc. are not known. Gordon is a soft spoken guy, who is very popular in his department. He is known for standing and fighting for his staff. He refers to himself as the financial controller, and that his main role is controlling the movement of funds. He has often argued against

proposals raised by the production manager usually citing the cost implications.

Paul, the marketing manager, joined the company from a Kenya based beer manufacturer. He has good experience in the marketing of beverages and other fast moving consumer products. His plans have mainly been constrained by the limited marketing budget, yet he has taken a lot of the blame for the declining sales.

Viola, the human resource / administration manager, is a no nonsense lady who many employees even fear to meet in the corridors. She is a typical personnel manager as opposed to a human resource manager. She was at the fore front of the redundancy scheme that led to the strike a few years ago. She also introduced a number of changes such as the clock-in register, scrapping of over-time, as well as the scrapping of allowances paid to staff who are called for duty while at home or on holiday. Complaints have therefore been anonymously raised regarding the working conditions. Viola has failed to introduce a performance-based management system.

The search for solutions

Aware that there were variations in approach to the challenges at hand, Wallas tasked Brian and Gordon, each to present a paper on the necessary management interventions at the company. This, he thought would form part of the work plan to restore the company onto its growth track. He also believed that it would guide his assessment of who was the better candidate to succeed him when he eventually retired. The papers were to be presented to and debated by the entire management team.

Brian spoke first; "I am convinced that our people only give their best when under some kind of pressure; they prefer to be directed and with one or two exceptions, do not want any responsibility. I would not describe any of our employees as lazy, but they must be led. We need to develop a cadre of hands-on managers at KBUL who can give out crystal clear instructions, and then roll their sleeves up and make sure that those instructions are carried out. Where do these instructions come from? They must be based on a coherent high level strategic plan devised by management and broken down into a hierarchy of specific targets. Without clear specific and measurable targets - not just talk about performance, this company will never achieve its full potential. I am not against any one, but the authority to make decisions has to be earned the hard way. When our best managers show they can consistently meet the demanding targets we set, then

that is the time to delegate some authority and give them some freedom of operation, plus an incentive bonus scheme. So until true management capability is proved, we have to put in place a system of targets; from the top to the bottom. We need long-term goals broken down into simpler measurable targets that shop floor employees can understand. These should relate to every aspect of our business model; sales, production, purchasing, human resource, etc.” He wound up by saying....”what gets measured, gets done⁴, and that what gets rewarded gets done repeatedly⁵.”

Gordon’s presentation was a bit different; “I totally agree with my brother about the scale of difficulties facing the company. We are way below the level of operations required to sustain operations. However, my philosophy is about empowerment rather than top down control. We need to encourage innovation, flexibility and general staff motivation rather than target setting. Consider the Japanese, they understand that the employee is the most critical resource. So rather than setting meaningless targets, why don’t we empower them and reward their innovation? We can not have the hands of our managers tied by strict adherence to top down targets and a Soviet style command and control mentality. This will lead to focussing on short-term targets, and missing the bigger picture. The future of this company rests squarely with its employees, and they will only give their best if they are given genuine responsibility. So, I believe that a KBUL manager’s role is not fundamentally about supervision and meeting written targets, but to develop talents in all employees and realise their full potential for creativity, ingenuity and imagination.”

Citing what was happening at competitors’ firms, he added ... “people need to be given the freedom to innovate and come up with new business ideas. We should not waste precious time emphasising targets when we do not even know what is happening to the competition! That is where we are getting it wrong. Staff must be empowered to freely look out there and bring innovative ideas which will enable us compete better”. He also quoted articles⁶ by Walter

⁴ Quoting Peter Drucker, a renown management guru

⁵ Quoting Barcy Fox

⁶ CBC sets new turf for bottled water race; Daily Monitor Monday 24th May 2010 & ~~Coca-Cola~~ [Coca-Cola](#) turns the heat on UBL with Novida; Daily Monitor, 20th January 2010 by Walter Wafula and; Alvaro, Novida curve new market niche; Daily Nation 1st March 2010 by Winfred Kagwe.

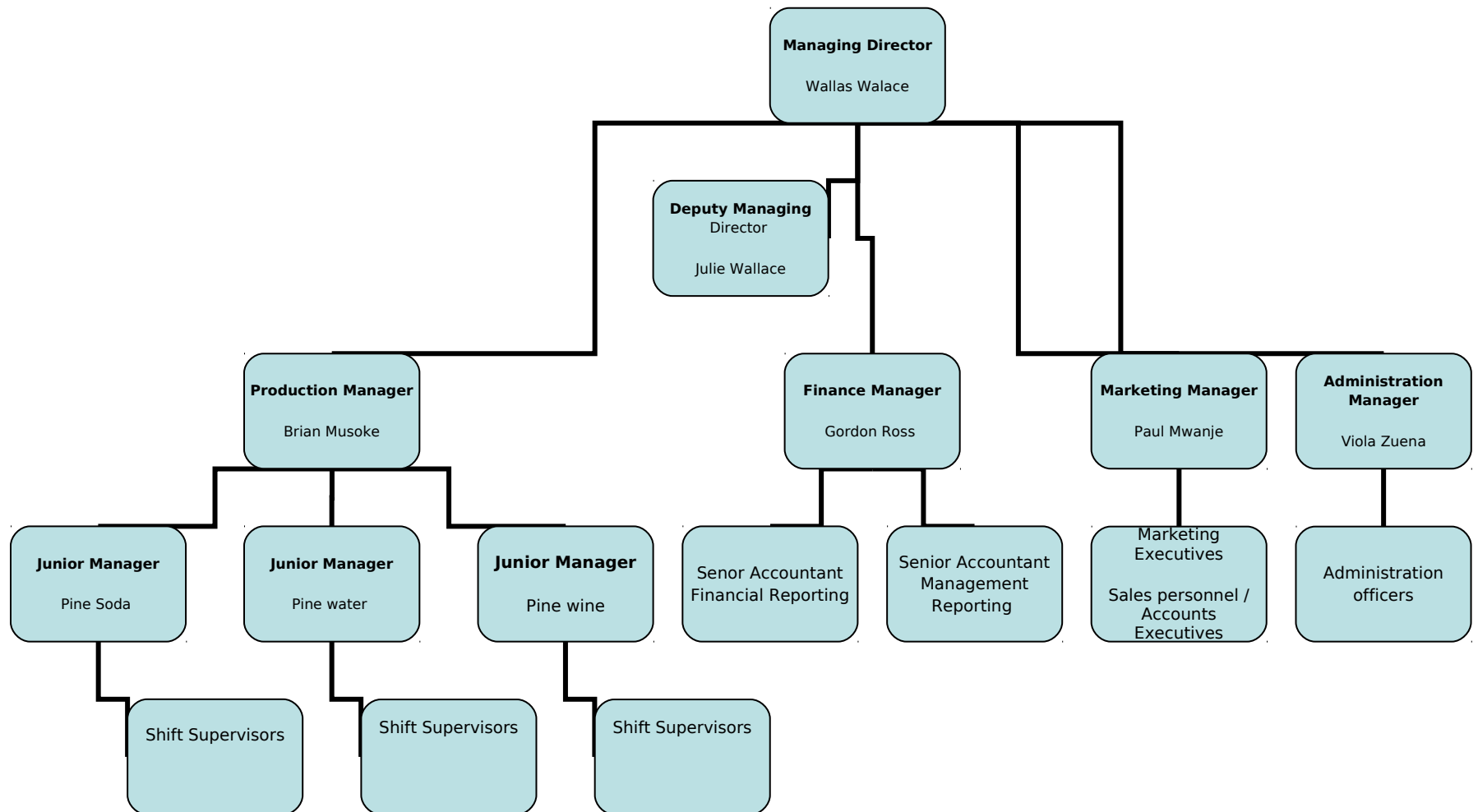
Wafula and Winifred Kagwe which had recently appeared in the papers. "We may also need a research unit to keep gathering market intelligence and advising management accordingly." He concluded.

There was considerable debate within the management team, but unfortunately there was no agreement on the way forward. Sensing that tempers were flaring, Wallas called the debate to a halt. He informed the meeting that he was taking the weekend off to reflect about the long deliberations that had been held, but added that the debate was very insightful about the current problems faced at KBUL, and that a formal action plan was to be drawn from the issues discussed.

He quietly said to himself, "I surely need to seek some independent advice! But from who?" Might Brian have some contacts in the management consultancy circles?" he wondered.

A follow up meeting was to be communicated after the MD's internalisation of the issues, and consultation with a management consultant.

Appendix 1: Organisation Structure



Appendix 2: Financial Reports Extracts**KBUL Statements of Comprehensive Income**

	2009 Shs '000'	2008 Shs '000'	2007 Shs '000'
Revenue	20,118,947 <u>(3,446,566)</u>	22,457,609 <u>(3,847,191)</u>	26,431,289 <u>(4,527,918)</u>
Excise duty			
Net income	16,672,381	18,610,418	21,903,371
Operating expenses:			
Variable costs	(12,476,540) <u>(1,153,131)</u>	(13,025,413) <u>(1,122,880)</u>	(14,537,209) <u>(1,585,877)</u>
Indirect production costs	<u>1</u>	<u>1</u>	<u>1</u>
Total production costs	(13,629,671)	(14,148,293)	(16,123,086)
Selling costs	(221,625)	(536,392)	(626,085)
Transport and distribution costs*	(743,336)	(767,099)	(780,980)
Staff costs	(127,000) (67,288)	128,098 (56,098)	149,098 (1,304,220)
Advertising and marketing	<u>(449,705)</u>	<u>(2,430,988)</u>	<u>(2,614,578)</u>
General and administration	<u>1</u>	<u>1</u>	<u>1</u>
Total operating expenses	(1,608,954)	(3,662,479)	(5,176,765)
Profit/(Loss) from operations	1,433,756 2,272,752	799,646 (1,883,019)	603,520 (345,907)
Non-operating income**			
Net financing costs	<u>(795,680)</u>	<u>(802,000)</u>	<u>(845,602)</u>
Profit/(Loss) before taxation	<u>2,910,828</u>	<u>(1,885,373)</u>	<u>(587,989)</u>

*Distribution expenses are only incurred for soda and wine sales, but not water.

**The non-operating income comprises the gain on sale of the last factory (2009), as well as foreign exchange gains/losses.

KBUL Statements of Financial Position

	2009 Shs '000'	2008 Shs '000'	2007 Shs '000'
Assets			
Non-current assets			
Prepaid operating lease rentals	883,399	901,428	950,123
Property, plant and equipment	6,989,631	6,991,911	7,230,987
Accounting/production software (intangible)	<u>75,343</u>	<u>85,344</u>	<u>97,685</u>
	7,948,373	7,978,683	8,278,795
Current assets:			
Inventories	2,856,884	2,356,088	2,808,796
Trade and other receivables	3,043,546	3,137,598	3,345,679
Cash and bank balances	<u>3,935,215</u>	<u>3,087,553</u>	<u>2,450,983</u>
	<u>9,835,645</u>	<u>8,581,239</u>	<u>8,605,458</u>
	<u>17,784,018</u>	<u>16,559,922</u>	<u>16,884,253</u>
Total assets	<u>8</u>	<u>2</u>	<u>3</u>
Equity and liabilities			
Capital and reserves			
Share capital:			
- Ordinary shares	5,930,581	5,930,581	5,930,581
- Preference shares	2,496,520	2,496,520	2,496,520
Share premium	4,837,699	4,837,699	4,837,699
	<u>(3,119,076)</u>	<u>(6,029,905)</u>	<u>(4,144,532)</u>
Accumulated losses	<u>6</u>	<u>5</u>	<u>2</u>
	10,145,724	7,234,895	9,120,268
Shareholders' equity	4		
Shareholders' loans	153,295	273,295	-
Other non-current liabilities:			
Loans maturing after one year	2,116,048	4,488,258	4,595,000
Current liabilities:			
Loans maturing within one year	1,844,737	2,096,241	2,456,820
Bank overdraft	-	1,000	1,800
Trade and other payables	<u>3,524,214</u>	<u>2,466,233</u>	<u>710,365</u>
	<u>7,638,924</u>	<u>9,325,027</u>	<u>7,763,985</u>
	<u>17,784,018</u>	<u>16,559,922</u>	<u>16,884,253</u>
Total equity and liabilities	<u>8</u>	<u>2</u>	<u>3</u>

KBUL Production Volumes in Litres

	2009	2008	2007
Pine Soda	3,712,920	2,987,600	3,740,987
Pine Water	839,610	981,780	970,987
Pine Wine	<u>1,375,157</u>	<u>1,145,964</u>	<u>-</u>
Total	<u>5,927,687</u>	<u>5,115,344</u>	<u>4,711,974</u>

Revenue

	2009	2008	2007
	Shs '000	Shs '000	Shs '000
Pine Soda	10,927,042	14,327,513	24,812,977
Pine Water	1,399,350	1,636,300	1,618,312
Pine Wine	<u>7,792,555</u>	<u>6,493,796</u>	<u>-</u>
Total	<u>20,118,947</u>	<u>22,457,609</u>	<u>26,431,289</u>

Note:

- The sodas are packaged in bottles ranging from 300 millilitres (ml), 500 ml to 1 litre.
- Water is bottled in 500 ml and 1.5 litres.
- Wine is packaged in 500 ml.

Table 1: PVIF- Present Value of Shs 1 Due at the End of n Periods

Period	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	18%	20%
1	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.847	0.833
2	0.890	0.873	0.856	0.842	0.828	0.815	0.799	0.785	0.772	0.759	0.746	0.718	0.694
3	0.840	0.816	0.793	0.772	0.753	0.735	0.716	0.698	0.679	0.662	0.645	0.609	0.579
4	0.792	0.768	0.745	0.726	0.708	0.691	0.672	0.654	0.636	0.619	0.603	0.568	0.540
5	0.747	0.723	0.701	0.683	0.666	0.649	0.630	0.612	0.595	0.578	0.562	0.528	0.502
6	0.705	0.681	0.660	0.643	0.627	0.611	0.592	0.574	0.557	0.541	0.525	0.492	0.468
7	0.665	0.641	0.621	0.604	0.588	0.572	0.553	0.535	0.518	0.502	0.486	0.454	0.432
8	0.627	0.603	0.583	0.566	0.550	0.534	0.515	0.497	0.480	0.464	0.448	0.417	0.396
9	0.592	0.568	0.548	0.531	0.515	0.499	0.480	0.462	0.445	0.429	0.413	0.383	0.363
10	0.558	0.534	0.514	0.497	0.481	0.465	0.446	0.428	0.411	0.395	0.379	0.350	0.331
11	0.527	0.503	0.483	0.466	0.450	0.434	0.415	0.397	0.380	0.364	0.348	0.320	0.302
12	0.499	0.475	0.455	0.438	0.422	0.406	0.387	0.369	0.352	0.336	0.320	0.293	0.276
13	0.469	0.445	0.425	0.408	0.392	0.376	0.357	0.339	0.322	0.306	0.290	0.264	0.248
14	0.442	0.418	0.398	0.381	0.365	0.349	0.330	0.312	0.295	0.279	0.263	0.237	0.221
15	0.417	0.393	0.373	0.356	0.340	0.324	0.305	0.287	0.270	0.254	0.238	0.213	0.198

TABLE 2: PVAF - Present Value of an Annuity of Shs 1 per Period for n Periods

Period	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	18%	20%
1	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.847	0.833
2	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.667	1.644	1.622	1.600	1.568	1.528

Integration of Knowledge - Paper 16

3	2.67 3	2.62 4	2.57 7	2.53 1	2.48 7	2.44 4	2.40 2	2.36 1	2.32 2	2.28 3	2.24 6	2.17 4	2.10 6
4	3.46 5	3.38 7	3.31 2	3.24 0	3.17 0	3.10 2	3.03 7	2.97 4	2.91 4	2.85 5	2.79 8	2.69 0	2.58 9
5	4.21 2	4.10 0	3.99 3	3.89 0	3.79 1	3.69 6	3.60 5	3.51 7	3.43 3	3.35 2	3.27 4	3.12 7	2.99 1
6	4.91 7	4.76 7	4.62 3	4.48 6	4.35 5	4.23 1	4.11 1	3.99 8	3.88 9	3.78 4	3.68 5	3.49 8	3.32 6
7	5.58 2	5.38 9	5.20 6	5.03 3	4.86 8	4.71 2	4.56 4	4.42 3	4.28 8	4.16 0	4.03 9	3.81 2	3.60 5
8	6.21 0	5.97 1	5.74 7	5.53 5	5.33 5	5.14 6	4.96 8	4.79 9	4.63 9	4.48 7	4.34 4	4.07 8	3.83 7
9	6.80 2	6.51 5	6.24 7	5.99 5	5.75 9	5.53 7	5.32 8	5.13 2	4.94 6	4.77 2	4.60 7	4.30 3	4.03 1
10	7.36 0	7.02 4	6.71 0	6.41 8	6.14 5	5.88 9	5.65 0	5.42 6	5.21 6	5.01 9	4.83 3	4.49 4	4.19 2
11	7.88 7	7.49 9	7.13 9	6.80 5	6.49 5	6.20 7	5.93 8	5.68 7	5.45 3	5.23 4	5.02 9	4.65 6	4.32 7
12	8.38 4	7.94 3	7.53 6	7.16 1	6.81 4	6.49 2	6.19 4	5.91 8	5.66 0	5.42 1	5.19 7	4.79 3	4.43 9
13	8.85 3	8.35 8	7.90 4	7.48 7	7.10 3	6.75 0	6.42 4	6.12 2	5.84 2	5.58 3	5.34 2	4.91 0	4.53 3
14	9.29 5	8.74 5	8.24 4	7.78 6	7.36 7	6.98 2	6.62 8	6.30 2	6.00 2	5.72 4	5.46 8	5.00 8	4.61 1
15	9.71 2	9.10 8	8.55 9	8.06 1	7.60 6	7.19 1	6.81 1	6.46 2	6.14 2	5.84 7	5.57 5	5.09 2	4.67 5