Quest Journals
Journal of Electronics and Communication Engineering Research
Volume 2 ~ Issue 9 (2015) pp: 06-21
ISSN(Online) : 2321-5941
www.questjournals.org

Research Paper

Practical feasibiliy study of expansion of a Funiture industry at owerri imo state of Nigeria by eko furniture house liniited

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I. INTRODUCTION

EKO furniture House Limited produces a variety of furniture items among which are the "EKO" Super Executive Cushions, School Lockers, desks and chairs well as dining tables with seats. The above-named items are the three bestseller products of the company on which this study focuses. The three sots of the products are named after the company as follows:
-"EKO" Super Executive Cushions
-"EKO" School Lockers, Desks and Chairs
-"EKO" Dining Tables and Seats,
With the current ex-factory price* of each set as N3, 500, NI, 200 and N60.00 respectively.

PURPOSE OF STUDY

The post-civil war boom in the building construction industry has created an unprecedented demand for the products of EKO Furniture House Limited. Consequently it is unable, given its existing production capacity to adequately satisfy the current, let alone, the potential market. The company plans, therefore, to expand its present production capacity by the purchase of additional new machinery and equipment.

In order to be guided in its expansion program, The Company, EKO furniture house limited, commissioned us, a firm of investment analysis, market surveyors and feasibility study specialists, to conduct a techno-economic, social and commercial feasibility study of the proposed expansion. Our findings from the basis of this feasibility report.

(i) Economic Feasibility

a) This covers the market survey of demand for and supply of the relevant products in the Nigerian market.

b) Projection of the demand for the relevant products in Nigeria within the next five (5) years, as well as the proposed annual output.

(ii) Social Appraisal

This covers the effect of the project on the Nigerian labor market.

(iii) Technical Appraisal

This focuses on proposed annual output, the cost of additional Machinery and equipment requirements, utilities, raw materials And location, projections of additional labor, working capital requirements total investment outlay, as well as financing plans and marketing arrangement.

(iv) Commercial Analysis and Financial Analysis

This covers Profit and Loss Account, Cash Flow and Balance Sheet Projections, Rates of Return on Equity Employed and the Recoupment Period, Profitability Ratios and Break-even Operating Rates.

(v) Economic Benefits to be derived from the Project

This involves a study of the contributions of the project to the Nigerian Government Treasury and Gross Capital Formation. (G.C.F.), taxes paid by the project in form of excise duty and income tax.

II. METHODOLOGY

Relevant data based on the scope of the study were collected through questionnaires, desk research and field surveys. All data collected were subjected to analysis for purposes of meaningful conclusions on the objectives of the study.

Justification for this Project

Every project is affected by factors outside itself. Often its success or failure depends more on the general business environment or climate in which it operates and on the general reputation of its sponsors than on its technical, economic and financial aspects. The consultants are, therefore, of the view that a brief background information on the promoters of this project will be of interest both to institutional investors and to foreign entrepreneurs who may he approached by the project promoters for loan capital, equity participation and/or technical partnership

(i) Project Promoters

The promoters of the proposed furniture expansion project MESSRS EKO FURNITURE HOUSE LIMITED, an indigenous Private Limited Liability Company which was incorporated in 1968 for the primary purpose of carrying on business of furniture making and sales of furniture products as well as the business of interior decoration with an authorized share capital of N200,000. The company plans to increase the share capital substantially in View of the size of the proposed expansion project.

EKO Furniture House Limited is currently actively engaged in the production and local marketing of furniture products at its furniture products at the furniture factory located in Abia state of Nigeria.

The Managing Director of the above company, CHIEF OKOLI OBI, a dynamic businessman with a professional Diploma certificate in Furniture-making, has to his credit more than twenty-Five years of practical experience in business management and marketing The increase in his company's annual turnover from N3,000in 1963 to well over NO.5 million in 1980 with an average Net-of-tax profit growth rate of 20 percent per annum as contained In the company’s record of accounts, is an indication of his skill in effective management. There is no doubt, therefore, that his training and long practical management as well as marketing experiences will be an invaluable asset to the proposed expansion program, when implemented.

(ii) Existing unsatisfied demand for furniture products

The Federal Government's ban on the importation of furniture into the country has placed local producers of furniture into increasing pressure to satisfy the local demand for the products. Our survey of the major consumers of furniture in Nigeria (residential houses, institutions of learning, and commercial Houses revealed that local furniture manufacturers are largely unable to cope with the ever rising demand for high quality furniture products rather than to the Quantity supplied. These poor quality products can easily be competed out of the market if alternative sources of better quality furniture products can be found.

The promising investment climate both in Imo State in particular, and Nigeria in general as well as the increasing demand for better quality furniture product underscores the need for the proposed expansion of EKO Furniture House Limited whose products enjoy wide market acceptance on account of their comparative high quality and competitive prices.

MARKET SURVEY

Analysis of the Market

The determining factor in the share of the furniture market by any furniture industry, as revealed in our investigation, is the quality of its output and its effective distribution network.

Modern furniture has become very popular both in the urban and rural communities in the country. Inspite of the proliferation of furniture houses in both the urban and some rural centers, ranging from one man furniture backyard to modern industries with standard personnel team, the demand for quality furniture products is always quite high. The current supply gap for good quality is largely filled by the back yard furniture industries which, though inefficient and produce low-quality products, yet survive and make profit

It is quite difficult to reduce to concrete figures the actual general Demand for and supply of furniture owing to lack of standardization in furniture products, prices and quality. To illustrate the above observation based on our market findings, a particular consumer went to a local market to purchase some dining-room chairs and left the market with the comment that "there were no dining-room chairs in the market" when in actual fact there were more than a hundred dining room chairs available in the same market except that none of them satisfied his taste. Though this particular consumer might have displayed an exaggerated taste for quality in this respect, it is nonetheless an intriguing situation for an analyst of the Nigerian furniture market.

(ii) Market Growth Prospects

The demand for furniture is closely related to the trends in the building industry, the level of national and individual disposable incomes as well as individual tastes.

In the 1950s, Nigeria's per capita national and personal incomes were very low. Individuals and even organizations could ill-afford to put up costly buildings. Most of the houses in the rural areas were built of mud and had mud-floor finishing as well as batten doors with "village type" of furniture to match. In the urban towns

the majority of the houses were of sand Crete cement blocks and the floor finishing of most of them was of cement, while the batten doors were provided with the "rim type" of safety locks which had comparatively uninviting finishing. The furnishing was mostly of "hard" furniture.

Within a period of two decades Nigeria's per capital income has almost quadrupled and the corresponding increase in personal income has altered the taste of the consumers of both commercial and residential houses. The new trend is towards building concrete houses with more attractive but expensive floor and door finishing. The floor finishing, depending on the level of income and taste of the owner, is either of PVC tiles, terrazzo tiles, terrazzo in-situ or marble tiles. In the case of door finishing, it is either of flush doors or paneled doors with the glamorous-looking Yale type safety locks and better quality and modern furniture to match.

In view of the indirect effect on the building industry of some of the various economic measures taken by the Nigerian Government, the demand for furniture is expected to increase. These economic measures include the Decree No. 54 of 1979, promulgated by the government, making it mandatory for employers in the country with staff strength of 500 workers or above, to provide housing accommodation for them. A housing scheme for low income earners in Nigeria has also been embarked upon jointly by the Federal Government, the World Bank and the Federal Mortgage Bank aimed at supplementing government efforts to develop institutional and financial framework for the implementation of a national low cost housing policy.

The provision of adequate housing particularly in the country's urban areas has become an essential component of the social policy of both the Federal and State Governments of Nigeria. For the first time at the Federal level, the first executive President of the Federal Republic of Nigeria, in his maiden broadcast to the Narion on October 1, 1979, outlined a definite plan to improve the rural areas. To this end, rural housing co-operatives and financial institutions would be encouraged to provide loans to rural dwellers for the building of their own houses or to improve existing ones.

The bulk of 273 million Naira allocated to the Nigeria Police Force in the President's 1980 Budget proposals was expected to be used in their barracks and offices. Furthermore, the Federal Government proposed to spend a total of N510 million on housing alone from the fiscal year. The implementation of these programs would considerably enlarge the market for both the domestic and institutional Furniture products, which the management of EKO Furniture House limited could, with its established and high quality products, exploit to a maximum level provided the necessary funds are readily available to implement this expansion project with a minimum delay.

The promising growth of the country's G.D.P, the present Nigerian government emphasis on the provision of more dwelling units and educational facilities, including new classroom accommodation, and the increase in individual's disposable income as well as the ever-increasing taste consciousness of the Nigerian furniture products consumer argue well for investors in the furniture industry.

iii) Local Competitors and Domestic Productions

Field investigations reveal that the major existing competing furniture industries in the country include the Dunon Furniture Company limited, Enugu, Enugu State, a private limited liability company with current investment in excess of and a labor force of more than 250 employees. The two other major furniture factories in Nigeria, among the other numerous competitors with varying degrees of efficiency in furniture productions, are the C.FC. Furniture Company (W.A.) Limited, Mushin, Lagos, founded in 1956 with current investment of well over N100f000; and the Harmony House Company Limited, Ikeja, Lagos, which started commercial operations in 1961 and has currently more than N120,000 in investment capital. Both companies mentioned above have, each, more than 470 employees in their payroll.

Accurate and reliable statistics on the total annual domestic productions of furniture products are not readily available. But some major furniture producers interviewed put the total annual productions in the country at about 4,000,000 units of both the wooden and metal furniture products with marked variations in selling prices, quality and finishing's. Owing to the increasing demand for furniture products in the country, some of the major competitors have plans to expand their Operations "in the foreseeable future subject to availability of funds". Although indications are that it would take up to two or three years for

The various planned expansion projects to be implemented in view of the companies' financial constraints, we nevertheless took account of this in computing the annual output of the proposed EKO Furniture House limited expansion project.

Technical Feasibility

Projected Demand for the company's Products and Proposed Annual Output

Official projected figures for additional domestic and institutional Building constructions in the country, as revealed in our survey, are limited either to the major cities in Nigeria and/or to the public sector to The exclusion of the private sector which equally participates actively in the building and educational

development in the country. Consequently, we consider these official projected figures as inadequate for purposes of computing the local demand for furniture products and for fixing the Company's proposed annual output after expansion. The satisfied and unsatisfied demand for the company's products provide, in our view, a more reliable and workable basis and this we have used in our computations. Company records indicate that effective demand for EKO Furniture products shows an average annual growth rate of 30 percent on the basis of the effective demand for the company. Products for 1990 and 1991 which are the most recent available data, Table Bl shows the demand for the company's fast-selling products as projected.

TABLE Bl: PROJECTED YEARLY DEMAND

Products **Year (in units)**

Products	1990	1991	1992	1993	1994	1995	1996
Eko super executive cushions	600	930	1209	1572	2,043	2,656,	3,453
School lockers chair and desk	950sets	1473	1915	2489	3236	4207	5469
Dining Tables with seats	700sets	1085	1411	1834	2384	3099	4029

The total demand for the company's products for the next five years 1992 - 1996 is estimated as shown in Table B2.

TABLE B2: PROJECTED TOTAL DEMAND 1.92-1996

products	1992-96	Annual average (1992-96)	Current annual production capacity	Projected annual supply gap (1992-96)
Eko super executive cushions	10,933	2,187	200	1,987
School lockers chairs and desks	17,316	3,463	600	2,863
Dining tables with seals	12,757	2,551	250	2,301

To provide for a sufficient production safety margin and for a possible Expansion of the numerous existing competing factories and the arrival of new competitors, we proposed about 50% of the forecast annual average supply gap as the production capacity of the additional plant as in Table B3.

Products	Daily Output	Annual Output	Work Days
Eko super executive cushions	3.7 units	1,110 units	300
School lockers, chairs and desks	5.2 sets	1,560 sets	300
tables and seats	4.8 sets	I,440 sets	300
TOTAL	13.7	4,110 units/sets 300	300

TABLE B3: ANNUAL PRODUCTION CAPACITY

The planned total annual production capacity of the factory after Expansion stands at 4,110 units/sets of the relevant products and this we have used in our forecast Profit and Loss account. In view of the Expected competitiveness of the prices of the company's products due to Economies of scale and its plan to expand appreciably its sales network, there is no doubt that the company will not experience any serious problems of selling its products. The National Development Plan launched on 12 January, 1981 by president holds bright prospects for investors in the furniture About N2.7 billion on direct housing construction.

In addition an urban development project in which the Federal and State Governments will participate with the aid from the World Bank is also in the pipeline. Beside, commercial banks in the country are at the moment required to set aside a substantial proportion of their lendable funds as loans for building construction in Nigeria. In1981-85 plan Period, an expanded lending program has also been envisaged for the Federal Mortgage Bank to stimulate private housing construction. What all these developments indicate is that there will be an intense activity in the Building sector in the country in the years ahead with the expected corresponding demand for furniture products.

(ii) Required Industrial Land Area and Location

EKO Furniture House Limited has acquired additional two (2) acres of industrial land at Ngwa village on the Aba - Owerri road for the expansion program. The location is well situated in terms of nearness to water supply source and good access roads for the supply of the needed raw materials and evacuation of finished products.

(iii) (a) Raw Materials

The main raw materials required for the factory operation include Wood adhesives, fabrics, foam and fasteners. About 95% of the needed raw materials are obtainable locally.

(b) Utilities

The utilities required for the factory operation include electricity, water, fuel, oil and lubricants. Electricity is lacking in the factory location but the promoters have plans to connect the factory with electric power from a nearby public electricity supply source. A provision is therefore made in this study for the purchase of a standby power generating plant the fuel consumption rate of the power generator is put at one gallon of diesel oil per three (3) hours of continuous running. Although the proposed location is near a water supply source, it is considered economic to sink a borehole 'in the company premises for an on-the-spot water supply to reduce labor costs of employing regular Water supply contractors. The estimated costs of raw materials and utilities in-put per set of "EKO" super executive cushion, "EKO" school lockers, desks and chairs "EKO" dining tables and seats are put respectively at NI,050.00, N360.00 and N18.OO.

TABLE B4: LABOR & MANAGEMENT FORECAST IN ONE 8-HOUR SHIFT*

Post	Existing	Additional	Existing	Proposed Gross Annual Salary After Expansion	First Year Of Commercial Operation After Expansion
General Manager		1		15,000	15,000
Production Mgr./ Metallurgist**		1		13,500	13,500
Assistant Production		1			
Manager/Metallurgist		1		12,000	12,000
Mechanical-Engineer		1		12,000	12,000
Chief Accountant		1		12,000	12,000
Personnel & Manpower		1			
Planning Officer		1		9,000	9,000
Company Secretary/ Admin. Manager	1	-	3,000	8,500	8,500
				8.500	8.500
				4, 500	4, 500
Sales Manager		1		13.500	13.500
Assistant Acct.		1		4,500	4,500
Machinists		3		3,500	3,500
Public Relations Officer		1		4,000	4,000

Asst. Sales Mgr.		1		20,800	20,800
Purchasing Officer		1		2.400	2.400
Technicians/Carpenters	13	1	15,600	2,400	2,400
Maintenance Officer		1		21.600	21.600
Asst. Purchasing Officer		1		4,000	4,000
Mechanic/Driven	3	9	3,600	3,000	3,000
Foremen	1	1	1,800	3,000	3,000
Cashiers		2		4,800	4,800
Storekeepers		2		2,400	4,800
Clerks/Typists	1	3	1,200		
Receptionists		2			
Semi-skilled and					
unskilled hands					
including upholstery bids.	4	6	2,400	12,000	12,000
TOTAL					
Plus estimated 20% for *fringe benefits (rent subsidy, health, transport annual leave and directors allowance	23	41	27,600	196,900	196,900 39,380
Grand total	23	41			N236,000

Notes:

- Labor and Management Forecast is based on labor force of a factory of similar standard and operations.
- Could be contracted out to expatriates for the first 5-year phase.
- Emoluments were operative at the time of this report.

Labor and Management Forecast

The total labor requirements after expansion (Table B4) are estimated at 64 employees in one 8-hour shift per day. The bulk of the personnel are readily available in the Nigerian labor market. Company records show a total labor force of 23 persons (table B4). The envisaged expansion is expected to increase the staff strength by 41 persons operating on a one-eight-hour shift per day thereby bringing the grand total labor requirement after expansion to 64 men.

The forecast expenditure on salary and wages for the first year of commercial productions after the proposed expansion stands at N236, 000 including a 20% provision for fringe benefits (rent subsidy, health, transport, annual leave and Directors' Allowances).

The existing staffing arrangement in the company appears inadequate both in and remunerations. The more efficient members of existing staff should be retained within the frame-work of our proposed labor and management requirement with enhanced salary placement and responsibilities. The less productive ones should be given the benefit of the-job training and later be deployed to functional areas within the company where they will be more effectively utilized. This proposed arrangement will undoubtedly enhance productivity.

Machinery and Equipment

The existing machinery and equipment as well as the additional requirements needed for the factory expansion is contained in Table B5. The plant highlighted in Table B5 is capable of producing up to 4,110 units/sets of the relevant products per annum at 100 percent use of installed capacity, operating one 8-hour working shift per day.

Total cost of additional machinery and equipment based on quotation from suppliers is put at NI, 306,000 including the transport and installation costs.

The cost of land acquisition and development was based on the Estimated of a quantity surveyor.

The total estimated cost of additional machinery and equipment as Well as the necessary buildings stands at N1, 306,000. This brings the estimated total gross fixed assets of the company to N1, 565,000 in the first year of commercial productions after the expansion.

TABLE B5: MACHINERY AND EQUIPMENT

EXISTING	PRESENT VALUE (N)	ADDITIONAL	PRESENT VALUE (N)
2 hand drilling machine's	4,000	6 Band saw machines	30,000
1 Sawing machine		5 planning and thickening machines	8,000
12 welding machines		5 radial Goss-cutting machines	25,000
12 circular saw machines		4 compressor machines complete with accessories	24,000
2 planning machines		1 crumbling electroplating plant (semi-automatic)	200,000
2 compressing machines		1 Giben plant for circle saw	150,000
foam cutting machine		2 Automatic bending machines	25,000
1 Iron cutting machine		5 chain molding machines	6,000
2 sewing machines		2 circular saws	4,000
		3 Electrostatic spraying plants-enameling ovens Others and Installation	25,000;
		cost	188.000
EQUIPMENT	98,000	**EQUIPMENT**	
Office furniture including loose tools and vehicles including working capital		Office furniture and equipment, loose tools, and vehicles, junior technical staff uniforms, generating plant and air-conditioners	400,000
LANDS & BUILDINGS	121,000	**LANDS & BUILDINGS**	
Lands, factory and office buildings, including works		Land, factory and office buildings, including plumbing, electrical and external works	221,000
TOTAL	**N259.000**		**N1,306,00**

Note:

Additional vehicles include four (4) containerized trailer delivery vans, 3 (three) open Lorries for collection of iron scraps and timbers, 1 (one) staff bus and I (one) company executive car (Peugeot 504 station wagon). A 500 KVA power generating plant estimated at N105, 000 is proposed.

(Vi) (A) Production Processes (Wooden Furniture)

The manufacture of wooden or the wooden aspect of furniture is carried out in stages. The manufacturing processes are relatively simple. Wood, the main raw material, as a first stage is subjected manually or mechanically to planning with the aid of planning and thickening machines. The planned wood is next cut into the required sizes with circular or band saws. The third stage relates to manual or in some cases mechanical joining of the cut-out sizes. The fourth and- fifth stages in the manufacturing processes involve respectively sand papering and assembling of the wood with glue. This is mainly a manual operation. Polishing and upholstering of cushioned furniture with suitable fabrics constitute the final phase of the production processes. The products are next warehoused in readiness for sales.

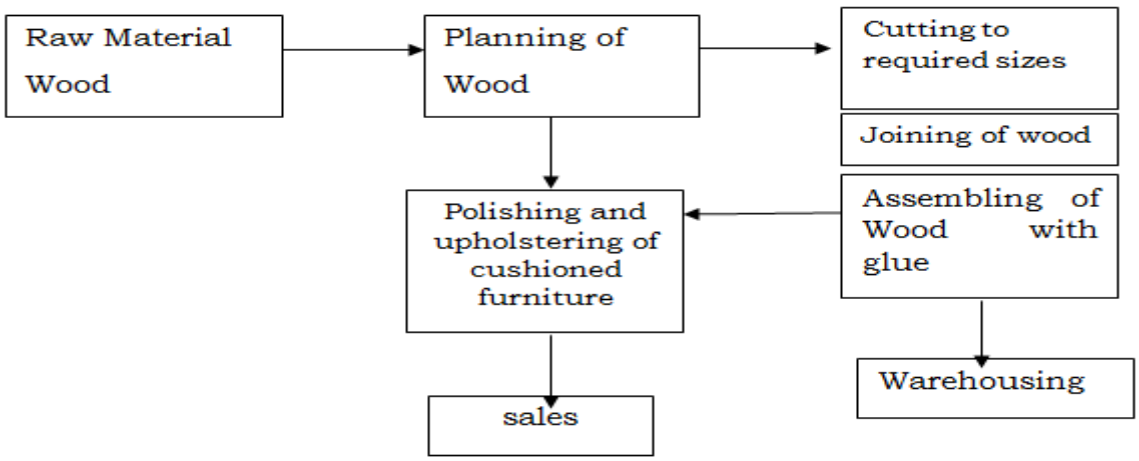

Figure BI: Process Flow Sheet (Wooden Furniture)

(b) Production Processes (Metal\Furniture)

The manufacture of metal or the metal aspect of furniture is equally carried out in stages. Mild steel, the main raw material is first of all cut to the required shapes and sizes and next welded and then sand papered with iron paper. Electroplating and riveting of the wooden aspect of the metal furniture constitute the final stages in the production processes. The products are again stored in the warehouse ready for sale.

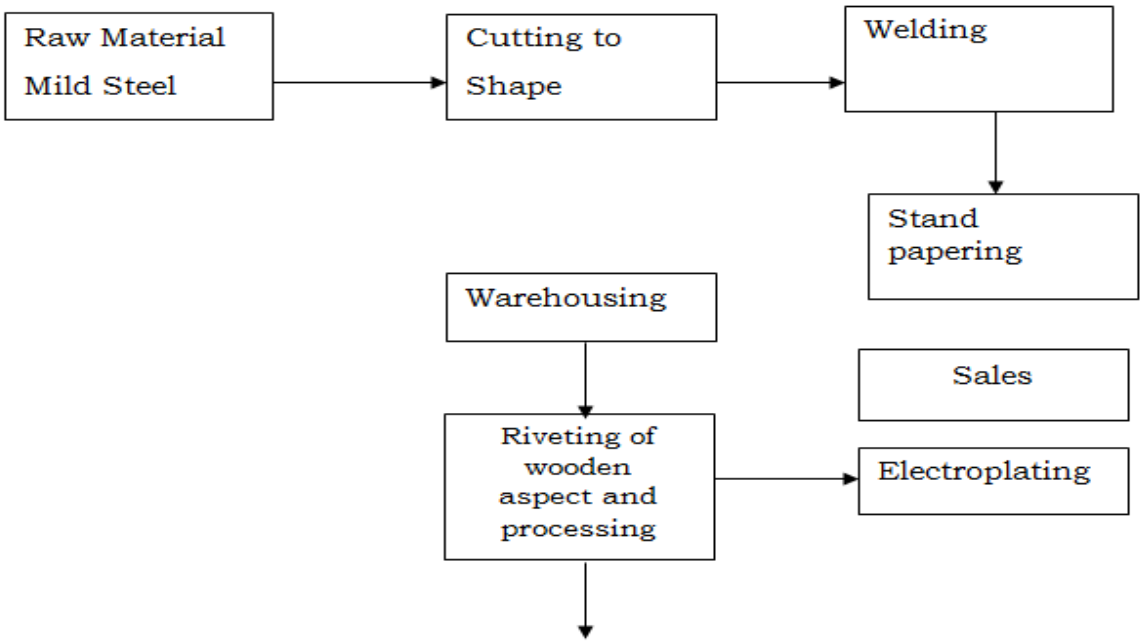

Figure B2: Process Flow Sheet (Metal Furniture)

TABLE B6: WORKING CAPITAL ESTIMATE AFTER EXPANSION (In Thousands of Naira)

	Year	Year	Year	Year	Year	Year
Stock of raw materials and utilities for 30 day need	175	175	184	193	203	213
Stock of work in Progress: 2 day output	-	32	34	35	37	39
Stock of finished goods:4 day output	-	64	68	70	74	78
Debtors: 2 day of net sales	-	32	34	35	37	39
Salary & Wages for two months	39	39	41	43	45	47
TOTAL	214	342	361	376	396	416
Less creditors: 15 day stock of raw materials and utilities	-	-88	-92	-97	-10	-
NET-TOTAL	214	254	269	279	294	309
Increase in working capital	-	-	15	10	15	15

Working Capital

The working capital estimate is based on the manufacturing programme and on the experience of an industry of similar operations in the country. Owing to rising cost of living, we have provided for an estimated 5% average annual increase in working capital as from the second year of commercial production. The reason for using short periods of stock is to avoid saddling the project with heavy working capital initially since the project, from our projections, starts to generate its own revenue right from the first year of commercial operations.

TABLE B7: FORECAST TOTAL INVESTMENT OUTLAY AFTER EXPANSION

Items of Expenditure	Estimated Cost (N)
Land Acquisition and Development	342.000.00
Machinery and Equipment	1,223,000.00
Pre-Investment Costs (Consultancy/ Travels etc.)	25,000.00
Working Capital (Year 1) After Expansion	254,000.00
PART TOTAL	1,844,000.00
Plus 10% contingency provision	184,000.00
Plus staff training provision	4,000.00
Net Additional Investment	N1,773,000.00

Considering the reasonable contingency margin provided in Investment Forecast, we believe there will be no spill-over in the actual cost of the expansion project.

(viii) Plans for financing the Net Additional Investment of 1,773,000

In working out the financing plan for the proposed expansion, we are guided by the requirements of many financing institutions in Nigeria which provide medium and long-term loans. Some of the institutions require:

(a) A loan/equity ratio of as near as possible to 1:2. or at worst 1. 5:2.
(b) Security in terms of fixed assets.
(c) Security coverage of at least 150% of long-term loan.

Working capital is usually secured on current assets. Bearing this in mind, we have constructed the following financial structure for the proposed project:

Equity shares

The total proposed shares of the project which stand at N1,097,000 could be subscribed as follows:

Project sponsors N731,000 (66.6%)
Preference shares N366.OOO (33.4%)
Total Equity shares N1, 097.OOO

The above equity subscriptions will finance additional land acquisition and development, pre-investment costs estimates, contingency and staff training provision as well as part working capital estimate, and part machinery and equipment.

Short-term loan

The remaining working capital of N127, 000 is to be raised through a short-term overdraft with the commercial banks in the country, such as U.B.A Limited, I.B.W.A. Limited and the African Continental Bank

Long-term loan

Sources of long-term loan estimated at N549, 000 include the N.B.C.L, N.I.D.B. and C.I.C. Limited. The long-term loan is expected to finance part machinery and equipment requirements. This financial structure gives for the first set of operation approximately a 2:1 equity/long-term loan ratio and a security coverage of 199.8% of long- term loan. We consider this structure satisfactory for we hope it will be acceptable to institutional investors which will be approached by project sponsors for loan capital.

Repayment of long-term loan over a five-year period on equal annual installments with one year moratorium and a yearly interest of about 9% should be proposed to lenders. We, however, used 10% in our estimated interests and bank charges, since in practice, 10% is generally the current maximum lending rate in the preferred sectors of this country's economy (manufacturing, agriculture, marketing and construction). The objective underlying a five-year repayment period is to enable the project acquire adequate financial resources necessary for growth. The one year moratorium proposed covers the estimated building construction period.

TABLE B8: FORECAST PROJECT IMPLEMENTATION SCHEDULE

year	Program of Project implementation	Sources of Financing	Estimated duration
	Building construction, civil engineering works, plumbing and electrical works	Equity Capital	12 Months

-1	Purchase of Machinery and Equipment as well as Installation	Long-Term Capital	5 Months
	Staff Recruitment and/or	Equity Capital	3 Months
	Purchase of Raw Materials	Equity and Short-Term Loan	3 Months
1	Test Productions		1 Month

(ix) Project Implementation Schedule

Table B8 presents the Forecast Project Implementation Schedule. It gives the estimated project completion period as one year from the date of commencement of construction of factory and office blocks in year 0.

(x) Proposed Marketing Strategy

Our survey reveals that the major furniture manufacturers in the country market their products through a number of distributors located in various towns of the Federation. This marketing method is mainly aimed at reducing the company's overhead costs. The proposed factory, operational, should not make direct sales of its products except at the factory site and on specific orders. Direct sales will lead to opening up depots and carrying large stocks thereby typing up large capital. It will lead to the maintenance of a large force of salesmen and paying of depot rent. Besides, the transportation costs of the company's products to the various sales depots will obviously increase the selling prices of the product thereby rendering them less competitive.

The appointment of experienced distributors of the company's products and allowing them a generous sales discount of up to 20% of gross sales as well as introducing annual incentive bonus to reward the most hardworking distributors could prove a very effective marketing strategy. We therefore, recommend it.

(xi) Export Prospects

To boost the exportation of goods manufactured in the country, a number of incentives has been given by the Federal Government through the Nigerian Export Promotion Council established by a decree in 1966 to further the country's export trade and discover a new market for her products. The incentives include:

a) The setting up of an Export Credit Guarantee Insurance Scheme with an initial capital of NI million to insure that Nigerian goods exported are insured against all risks.

b) Creation of an export development fund to help manufacturers carry out market research and improve the quality of their products.

c) Liberalization of condition for granting export licenses, and

d) Granting of duty-free concessions in respect of importation of raw materials to export-oriented industries in order to maximize and diversify.

The country's foreign exchange earnings. Information from the Nigerian Export Promotion Council indicates that their investigations both overseas and during trade fairs organized within the country reveal a potential high patronage of Nigerian manufactured goods overseas generally if the quality, the competitiveness of the price of the products and regularity of supply are guaranteed. It is hoped that, the proposed expanded furniture factory, when implemented, will, with effective management, highly skilled and motivated staff as well as high quality product, be able to satisfy first and foremost the domestic market before embarking on export since local market acceptance or otherwise of a product is generally an indication of its quality.

iv. Commercial and Financial Analysis

TABLE B9: FORECAST ANNUAL DEPRECIATION

Capital Items	Annual Depreciation		
	Existing	**Additional**	**Total**
Buildings, Fillings and External works	6000	11,000	
Vehicles, furnishings and office	10,000	40,000	
machinery	4.000	69,000	
Pre-investment cost		5,000	
total	N20,OOO	N125,OOO	N145,000

1. Forecast Annual Depreciation

The depreciation method used is linear depreciation over a period equal to the estimated life of asset:
20 years for buildings and external works
10 years for machinery and equipment
4 years for vehicles and junior staff uniforms, and
5 years for Pre-Investment Costs.
Total depreciation is put at annually. Assets written off and considered no longer serviceable could be renewed for farther operation. But pre-investment costs which do not generally constitute a recurrent item of expenditure in 'investment projects such as this particular project, may require no further provision after the first writing- off period.

2. Forecast Annual Average Overhead Expenses

The total estimated annual average overhead expenses stand at N1O1, OOO.OO with an assumed 5% average annual increase as provision for rising cost of living as from the second year of productions.

TABLE BIO: ANNUAL AVERAGE OVERHEAD EXPENSES FORECAST

Items of Expenditure	TOTAL
Building Insurance	5,000.00
Vehicle Insurance	15,000.00
Stationery, Posts and telecommunications, Business Travels, Advertising, Newspapers and Periodicals	10,000.00
General Maintenance including vehicle maintenance	11,000.00
Miscellaneous including fueling of vehicles, unforeseen expenditure, etc	80,000.00
Total	N1O1,OOO.OO

2. Calculation of Interests and Bank Charges:

Outstanding Long-Term Loan from ACB, Aba. N 10,000.00
Additional Long-Term Loan Envisaged 549.000.00
TOTAL N559,OOO.OO

TABLE B 11: ESTIMATED INTERESTS AND BANK CHARGES

Year	Interest N'OOO	Principal N'OOO	Capital Amount Outstanding
-1	56	-	559
1	56	91	468
2	47	100	368
3	37	110	258
4	26	121	137
5	10	137	

Notes:

Loans which are not normally released until Equity has been fully paid-up are generally tied to the borrowers fixed assets and are disbursable against specific invoices from suppliers or contractors.
Interests normally commence to accrue from the date of signing the loan agreement irrespective of the time of the full disbursement of the loan. The company is currently indebted to A.C.B., Aba, to the sum of N1O, OOO.OO as long- term loan.
Interest rate envisaged 10%
Loan Repayment Period envisaged 50 Years
Moratorium envisaged 1 Year
Annuity N147, OOO.OO

TABLE B12: FORECAST PROFIT AND LOSS ACCOUNT

ESTIMATED GROSS INCOME FROM OPERATIONS	YEAR I N'000	YEAR II N'000	YEAR III N'000	YEARIV N'OOO	YEARV N'OOO
Eko Super Executive Cushions (1,110 units at N3,000 each)	3,300	3,497	3,855	3,855	5,048
Eko school lockers, chairs and desks (1,560 sets at N900 each)	1404	1,474	1,625	1.625 .	1,707
Eko dining tables and seats (1,440 sets at N50 each)	72	76	79	83	88
Total Gross Sales Income	4,806	5,407	4,298	5,563	5.843 -
Less 20% sales discount	961	1,009	1,060	1,113	1,169
Less excise duty at 10%	3,845	4,038	4,238	41005	4,674 -
Net Sales Income	3,460	3,634	3,814	4,005	4,207
Operating Costs: Raw Materials and Utilities	1,750	1,840	1,930	2,030	2,130
Salary and Wages	236	248	260	273	287
Overhead expenses	121	127	133	140	147
Finance Charges: (10% interests on long and short-term loans including interest on additional long-term loan in year -1)	125	60	50	26	10
Total Operating Cost	2,232	2,275	2,373	2,469	2,574
Profit before Tax	1,228	1,359	1,441	1,536	1,633
Less estimated capital allowances	-283	-139	-117	-94	-72
Taxable Profit	945	1,220	1,324	11442	1,561
Less Com an Income Tax at 45 %	-425	-549	-596	-649	-702
Add estimated capital allowances	520	671	728	793	859
	283	139	117	94	72
Less Depreciation	803	810	845	887	931
	-145	-145	-145	-145	-145
Net Profit	654	665	700	742	786

III. FORECAST PROFIT & LOSS ACCOUNT

The forecast operating statement of the project for the first five years of operation is shown in Table B12. Running-in the plant and setting up a more comprehensive sales network would probably mean operating below capacity during the first year. The forecast trading account was based on our proposed production program of one 8-hour shift operation daily for 300 work- days annually. The proposed ex-factory prices of the products which represent an average of 81% of their current ex-factory prices in addition to a generous gross sales discount of 20% are considered quite competitive.

An average annual increase of .50/' in the selling price is forecast as from the second year of operation to Match with a possible estimated corresponding rise in the costs of the necessary input. Net profit is expected to increase from N658,000 in the first year of commercial operation to N786,000 in the fifth year.

TABLE B13: CASH FLOW PROJECTIONS

	ACTUAL N'000	**YEAR I N'000**	**YEAR II N'000**	**YEAR III N'000**	**YEAR IV N'000**	**YEAR V N'000**
Commercial Bank	127					
Overdraft	549					
Long-Term Loan	1,097					
Equity Capital	-					

Depreciation	-	145	145	145	145	145
Net Profit	-	658	665	700	742	786
TOTAL	**1,733**	**803**	**810**	**845**	**887**	**931**
Application of Funds						
Repayment of long-term loan	-	91	100	110	121	137
Working Capital	254	-	-8	-	-	-
Increase in Working Capital	-	-	15	10	15	15
Repayment of Short-term	-	-		127	-	-
Investment	1,519	-		-	295	-
Renewal of Machinery and	-					
Dividend Payments (40% of tax profit)	-	-	-	-	295	-
Increase or Decrease in Funds Available	-	712	695	318	1,599	465
TOTAL	**1,733**	**803**	**810**	**845**	**887**	**931**
Cash Surplus	-	712	697	318	159	465
Opening Balance	-	-	712	1,409	1,721	1,886
closing Balance	-	712	1,409	1,727	1,886	2,351

Renewal of vehicles written-off and junior staff uniforms.

IV. CASH FLOW PROJECTIONS

The cash flow projections (see Table B13) properly reveal the expected strength of this project. The project; without doubt, would generate enough funds internally to service its debts, renew its equipment written-off and pay reasonable dividends right from the third of commercial operations.

It is expected that tile project would be able to retire its short-term overdraft at the end of the third year and finance the working capital out of its cash reserves as from the fourth year. This would eliminate accruing interests on short-term loan estimated at N13, 000 annually and thereby strengthen the company's liquidity base.

Closing balance or available funds are expected to rise from N712, 000 in the first year to in the fifth year. This is considered very promising.

V. BALANCE SHEET FORECAST

The analysis of the balance sheet forecast in 'Tate B14 indicates that the Current Rati04 (the firm's capacity to meet its current liabilities) is expected to rise from 1.3 in the first year to 2.2 in the fifth year with an annual average of 1.9 for the first five *year phase. This is considered encouraging in view of the fact that Current Ratios usually range from 1.5 to 2.5. A High Current Ratio may, however, be due to increase in inventories that have not-been selling well. This does not apply to the proposed expanded factory because of the competitiveness of the proposed prices of its products which is expected to ensure a quick disposal of output and consequent utilization of inventories. A low Current Ratio, on the other hand, may be due to High Current Liabilities for income taxes due to prosperous operating years as in this project.

The Debt/Equity Ratios which measures the degree of protection of lenders is expected to show a promising increase from 2.6 in the first year to 25.2 in the fifth year.

The Quick (Acid Test) Ratios which measures the readiness of the company to redeem obligations shows an encouraging increase from 1.1 in the first year to in the fifth year with a yearly average of 1.7 for the first five operating phase. Acid Test Ratios are more stringent test of liquidity. They exclude inventories from consideration, since inventories are often difficult to dispose of if the company is in financial distress. Acid Test Ratios usually range from 0.5 to 1.6 with 1.1 as an average for all manufacturing firms. They may be low as in. this project due to increase in current liabilities on account of progressive increase in company income tax traceable to prosperous operating years.

Current Ratios, Acid Test Ratios and Debt/Equity Ratios are generally considered as measures of solvency. But it is necessary to point out that the extent to which the above ratios measure solvency is sometimes debatable. The Consultants are, however, of the view that, in practice, solvency is only assured when a firm has adequate funds on hand and can borrow them at the time its obligations mature.

1. Current Assets / Current Liabilities
2. Cash + Receivables + Marketable Securities / Current Liabilities
3. Equity + Reserves / Short-term + Long-term Loans

TABLE 814: BALANCE SHEET PROJECTIONS AS AT 31ST DECEMBER

	Actual N'000	Year l N'000	Year Il N'000	Year 111 N'000	Year IV N'000	Year V N'000
Land, Building, Machinery and Equipment	1,346	1,346	1,346	1,346	1,346	1,346
Total Gross Fixed Assets	1,346	1,346	1,346	1,346	1,346	1,346
Less Cumulative Depreciation	-	-145	-126	-435	-500	-725
Net Fixed Assets	1,346	1,201	1,056	913	766	621
Current Assets; **Material stock at cost including work in progress and stock of finished products**	175	217	286	298	314	330
Cash and Bank Balances	252	1,666	2,494	3,590	3,902	4,186
Accounts Receivable	-	32	34	35"	37	39
Total Current Assets	427	1,969	-2,814	3,923	4,253	4,555
Total Assets	1,773	3,170	3,870	4,834	5,015	5,176
Liabilities:	1,097	1,097	-1,097	1,097	1,097	1,097
Balance Carried Forward	-	-	712	1,409	1,727	1,886
Finance Bank Long-Term	549	559	468	368	258	137
Total Long-Term Liabilities	1,646	1,656	2,277	2,874	3,082	3,120
Current Liabilities:						
Annual Interest on Long-	-	112	47	37	26	10
Annual Repayment of Long-	-	91	100	110	121	137
Corporation Tax	-	425	549	596	649	702
Profit After Tax	-	658	665	700	742	786
Short-Term Loan	127	127	127	127	-	-
Accounts Payable	-	88	92	97	102	107
Annual Interest on Short-	-	13	13	13	-	-
Dividends Payable	-	-	-	280	297	314
Total Current Liabilities	127	1,514	1,593	1,960	1,937	2,056
Total Liabilities	1,773	3,170	3,870	4,960	1,937	2,056
Current Ratio	-	1.3	1.8	2.0	2.2	2.2
Debt/Equity Ratio	-	2.6	4.2	5.7	11.6	25.2
Quick (Acid Test) Ratio	-	1.1	1.6	1.8	2.0	2.1

Note: AddN10,000 outstanding long-term loan.

Rates of Return on Equity Employed

Rates of Return on Equity = $\frac{\text{Net Profit}}{\text{Equity + Reserves}} \times \frac{100}{1}$

i. 1st Year: 36.4%)
ii. 2nd Year: 26.5%) Average rate of return on Equity
iii. 3rd Year: 24.8%) employed for the first five years
iv. 4th Year: 24.9%) of operation after expansion 27.1%

v. 5th Year: 22.80/0)

VI. FORECAST PAY-BACK OR RECOUPMENT PERIOD

Estimated Total Investment Outlay
Discounted Net Profit plus discounted
Depreciation (Cash Accumulation) for
The first five years of operation
NI, 773,000
Recoupment Period= Estimated Total Investment Outlay /Average Discounted Cash Accumulation
=NI.773.OOO = 2.8 Years
=N3, 218.OOO + 5
=2 Years 9 Months

IX. CALCULATION OF "BREAK-EVEN" OPERATING RATES

Our market study has shown that the total annual output can normally be sold at an average ex-factory price of NI, 317.00 per product. On this structural basis, the working expenses for an annual output of 4,110 units in the first year of commercial production are:

a) Fixed Costs =N482,OOO
b) Depreciation =N 145,000
c) Average Unit cost of Production for variable working expenses= N426.OO
d) Annual Repayment of Long-Term Loan m Year 1 =N91,OOO

If the average unit selling price falls for an annual output of 4,110 units the enterprise will continue to make profit until the average unit selling price falls to a value determined by the following equation:

4, HOP = N482, OOO N145, OOO + N91, OOO + (4,110 x N426)
Therefore 4, HOP
Therefore P N600.00.

The average safety or cushioning margin for price changes in the first year, all other factors, including production costs, being equal is:

NI.317.OO-N600 x 100 = 54.4%
NI, 317.OO

The level of output x at which forecast revenue is equal to total estimated working expenses (average ex-factory selling price: NI, 317.00) is determined by the following equation:

NI, 317x N482, OOO + N145, OOO + N91, OOO + N426x
Therefore NI, 317x - N426x N718, OOO
Therefore N89 Ix N718, OOO
X 806 units.

Should there be a change in the demand for the products in the first year, in the face of variations in output, the average safety or cushioning margin for the enterprise, all other factors, including the average selling price being equal, is:

4,110- 806 x 100-80.4%
4,110

v. Forecast National Economic and Social Benefits to be derived from the Project

1. Contribution by the Project to G.D.P. and G.C.F.

The benefits to be derived from the project are immense. The extent of the national economic benefit may be seen from the projects estimated direct contribution of well over (twenty-one million Naira) to Gross Domestic Production in the first five-year period after expansion It also contributes more than (one million two hundred thousand Naira) to Gross Capital Formation.

2. Profits Earned by Project Promoters

Investors in the shares of this project stand to earn a total estimated gross sum of N891, 00C (eight hundred and ninety-one thousand Naira) as dividends in the third, fourth and fifth years of operations after expansion.

3. Taxes Paid by the Project

Taxes paid by the project to the treasury at the end of the fifth year of operations are expected to stand the gross sum.

TABLE B/ 5: TAXES PAID BY THE PROJECT AFTER EXPANSION on thousands of Naira)

Year	Excise Duty	Company Income Tax	TOTAL
1	385	424	809
2	404	549	953
3	424	596	1,020
4	445	649	1,094
5	467	702	1,169
TOTAL	2.125	2,920	5,045

3. More Effective Utilization of Nigerian Labor

The project is expected to employ 64 Nigerian personnel, thereby helping to reduce the unemployment figure in the country which stood at 1.31 million unemployed persons at the beginning of the 1975-1980 Plan Period. Some of these people shall be drawn from among the unemployed. The remainder may have to leave other jobs in which they are less effectively utilized or less adequately remunerated. Gross remuneration of Nigerian labor employed by the project during the first five years of operation after expansion is expected to total NI,304,000 (one million three hundred and four thousand naira).