

Nailing The Cash



The Nail Making Business Guide



By Crack A Business Kenya

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Introduction & Overview

This guide focuses on making nails. Nails as used in construction, carpentry or other industry where fastening is required.

Nail manufacturers in Kenya can be loosely classified as:

Large Manufacturers - These dominate the steel industry. In addition to nails they manufacture a range of items like steel bars and iron sheets. These include the likes of Devki and Tuffsteel.

Mid Level Companies – These either manufacture nails at a relatively smaller scale or import nails from countries such as India or China. These include Kifaru Enterprises, Jubilee Jumbo Hardware and a host of other independent importers

Small Scale Manufacturers – These manufacture nails at a comparatively small scale. Think of them as a sort of cottage industry some operating from home. Because of their scale and the fact that they get their raw materials from the bigger steel companies their costs are relatively high. Some could struggle to price in the same range as the large and mid level companies. Hence they will often sell directly to retail hardware shops or contractors. These are the focus of this guide.

Related to the small scale manufactures are also small scale independent importers. These too import nails and distribute at a small scale level. Often importers specialize in one or several types of nails. Presently roofing nails are some of the most imported.

For years nail manufacturing was dominated by the large highly capitalized manufacturers. This was mainly because of the then barriers in entry in terms of the cost of machinery, raw materials and skill.

However that has now changed. A thriving cottage industry in manufacture is emerging. This has largely been triggered by the availability of affordable nail making machines. In the market now are machines starting at Kshs.500, 000; an amount which a significant number of entrepreneurs can afford.

Gradually steel companies are opening up to supply raw materials to the cottage industry and although this is still partially a challenge it's no longer a total hindrance. Most of the machinery present in the market does not require steep learning curves, thus technical knowledge is not much of a problem.

A big percentage of nails are used in the construction industry. And if the construction industry is growing then it means that the demand for nails will also increase. That has been the case in the last ten or so years. The higher demand means that there are greater chances of a nail making business succeeding since the market has been big enough to sustain new entrants. And although the construction industry has slowed down a little bit it's not to the level that the demand for nails has considerably gone down.

The growth of small and medium scale nail making business has also been contributed by the increase in the number of hardware stores. Hardware shops are now some of the most ubiquitous; found in every corner and in all sizes. This has eased the headache of distribution. With so many hardware shops there is a chance of a number of them stocking your product?

Another factor that has encouraged the growth of the cottage nail making business is the low brand loyalty among nail consumers. Often consumers will ask for "nails" rather than EFG company's nails. Thus as much as there is

some level of brand loyalty it's not so entrenched. This makes it easier for new manufactures to gain a foot in the market. This will become clear in the course of this guide.

As much all the above factors are in favour of a nail making business success is not automatic. Realities in the market you are targeting matter and so does your skill in managing the business. Competition in the business is also increasing at all levels and especially from the importers. Still opportunity exists in the business but requires good strategy to seize.

Types of Nails

There are numerous types of nails which can be classified by shape, purpose, size among other attributes. Here are some of the most common nails:

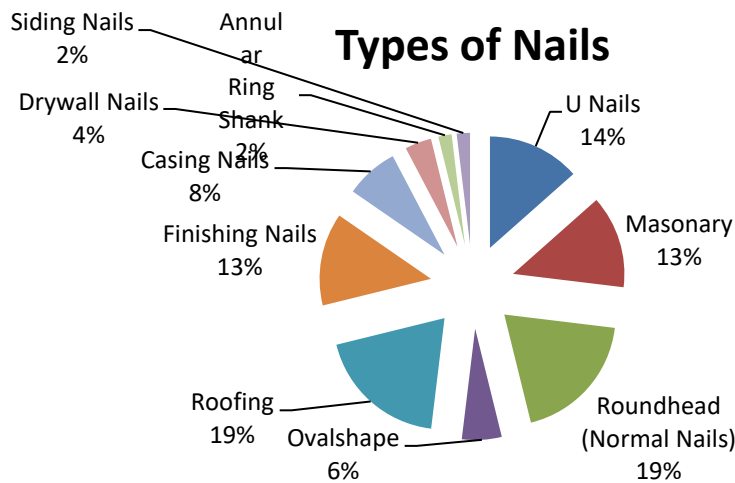
Product	Representative Image	Details
Wire Nails (Normal / Roundhead Nails)		These have a round head. They are the most common types of nails. They are jack of all trades in nails used for a variety of purposes from construction to carpentry. They range from half an inch to six inches.
Masonry Nails (Concrete Nails)		These are used to join wood, or such other material with concrete or stone. Because concrete is relatively hard these nails are made of tougher or hardened steel. The equipment used to make these nails and the nails themselves are relatively more expensive.
Finishing Nails		These are like round head nails but with a much slimmer head. Just like their name they are used to for finishing say a piece of furniture where the nail sinks in , giving a more smoother finish.
Tack Nails		They are used for upholstery and even in making shoes.

		
Roofing Nails		These are used for roofing purposes often to fix iron sheets and other forms of roofing. They have a wider head, and the trend nowadays is to have them with a rubber stopper to prevent rusting
U - Nails		They are also referred as fencing nails. They are commonly used to nail wires to posts during fencing.

Other types of nails include:

- **Annular Nails** – These have kind of spirals in the shank. They are used when a rather tight grip is required.
- **Oval head** – Think of this as a round head nail but with an oval cross section. It's used when a wood is likely to split.
- **Drywall Nails** – These are used to hang boards such as gypsums say for interior designs. The nail is made such that it does not cut the gypsum.
- **Casing** – They are used on thin boards such as plywood.
- **Upholstery Nails** – These are used to fix upholstery say to sofa sets or other such material.

From a survey we did the following were the types of nails stocked by a sample of wholesalers and retailers in Nairobi:



The most common types of nails that retailers stock are normal nails masonry, and roofing. These are the type of nails that are in high demand by contractors who are the majority of customers. ‘Normal’ nails are considered general purpose. From other conversations with retailers the more purposes a nail can serve the more it sells. Thus normal round headed nails move the fastest.

Finishing nails which are of a wide variety are stocked by retailers in areas with a high population of carpenters.

Specialty nails such as casing, drywall nails are not stocked by most of the retailers. This is because their demand is relatively low. Comparatively they are more expensive so retailers avoid them so as to free capital.

Despite stocking concrete nails at least one retailer quoted them as the slowest moving. The reason given was that because masonry nails are relatively expensive some contractors use normal nails even when dealing with concrete. Still they have to stock because there will be the occasional contractor who buys in significant quantities.

Roofing nails are also popular because unlike the other kind of nails they don’t have proper substitutes.

Which Nails to Make

Nail manufacturing equipment, as will be seen in the next section, is specific to the type of nail that you would like to manufacture. Accordingly if you have limitations in terms of capital you have to decide on the kind of nails that you are going to manufacture. Remember to consider capital not only in terms of the cost of equipment but also in light of other setting up costs like premises, manpower, licenses, raw materials and related items.

If limited then you can start with the fastest moving nails which are the normal nails of 2-4 inches and specifically nails of 3 inches nails which the most widely used. There are small scale nail making companies which make only the normal 3 inch nail. You can start with these then as you understand the market, the process and become more stable diversify to other types of nails such as 2 inch, roofing and concrete nails. You will also note that equipment for the specialist nails is more expensive.

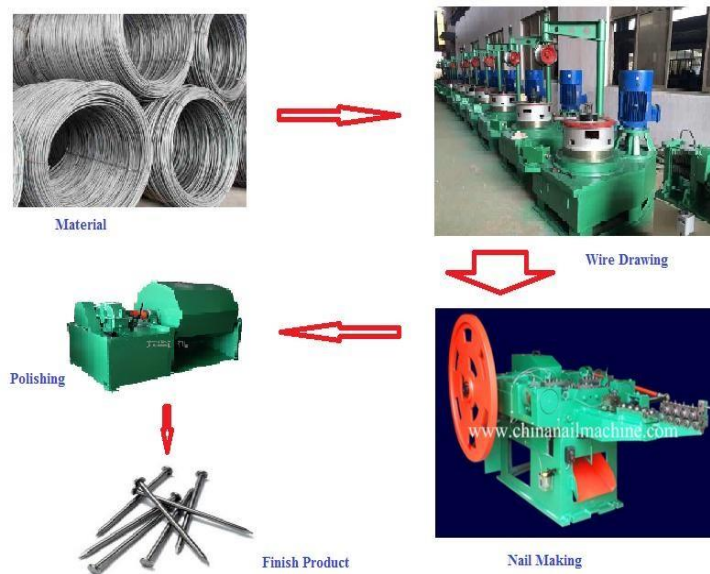
Nails are also classified according to their diameter; thickness. For instance the 3 inch nail above could fall within a range of diameters say 2mm – 4.1mm. Even if you check in the market you will find nails of the same length but different thickness.

So what diameter should you go for? This will depend on your target market. For instance if you are targeting the Kawangware area which has many carpenters then it’s advisable to product thinner nails to fit the furniture industry. The construction industry could also demand nails based on the stage in construction or the kind of materials that

they are using say the softness or hardness of the stones. When in doubt you can go for standard size nails of 2.8mm. In the end you are likely to find yourself making nails of a range of diameters as per demand. The market will guide you.

All this is not to discourage you from making the other kind of nails, but then if you have limited resources you have to make a choice which will best utilize the capital you have to maximize profits.

The Nail Making Process



The image above which we have borrowed from a nail making equipment best illustrates the process of making nails. Nails as we have pin pointed are made from a special kind of wire. This wire can be acquired when it's of the right thickness to be made to nails or it can be 'raw' meaning that it has to be 'processed' to the required thickness for nail making. That is the purpose of the wire drawing machine. Think of it as the machine that 'slices' a thick rod say of 5cms into thinner wires of 2mm. But drawing the wire is not a mandatory stage; it's possible to acquire nail which is already drawn and feed it into the nail making machine. We will come back to this in the raw materials section.

Once the nails are of the right diameter they are then fed into the nail making machine. This is where the actual nail making happens. The main parts of a nail are the head, the shaft and the pointed end. Basically the machine has dies which grip the wire as it is fed. The dies have been designed to form the shape of the head. While still gripped the wire is hit by a mechanical hammer to form the head. While still held by the dies a pair of cutters positioned at the desired length hit the nail on the opposite end forming the point and cutting the now formed nail from the rest of the wire. The die open and the nails fall into a collection pan. There will be slight differences to this based on the machine but the process is making the head, cutting the nail off while making the pointer, collecting the finished nails.

The finished nails have some roughness around them. They could be dull and with some rough edges. Thus they need to be cleaned "polished". The polishing happens in the polishing drum. The polishing drum could contain saw dust or an equivalent material. Nails are put in the drum and rotated for 30 – 45 minutes. They come out shiner and with a smoother finish. After the nails are polished they can be packaged for the market. This is the very basic process; there could be slight differences due to the equipment

Equipment

From the above process let us look more into the nail making equipment.

Nail Making Machine

This is the key equipment in the nail making process. Like we just mentioned above this is where wire is converted to nail. Nail making machines are categorized variously.

By Size - This refers to the size of nails that a machine can make say 0.5 - 1.5 inches, 2 -4 inches, 1-3 inches and so forth.

By Capacity – This refers to how many nails a machine can make within a given time. The standard measure is usually nails per minute.

By Diameter – This refers to the diameter of the nails that a machine can make.

By Power – This refers to the size and power of the motor running the machine.

All this will become clear in the next section where we give actual examples of equipment.

Polishing Drum

Just as the name suggests this is a rotating drum which gives the nails a final touch and shine after they are made. Polishing drums are largely classified by their capacity; the number of nails that they can polish at a particular time. For instance 300kgs / hour, 500kgs / hour and so forth. They can also be classified by the power of the motor. This is a must have equipment.

Wire Drawing Machine

This is used to get ‘raw’ wire to the required diameters. Wire drawing is optional equipment since you can buy ‘ready’ wire. However considering the price differences between the ready and raw wire if you have enough resources this will be a worth investment in the long run. Purchasing raw wire will greatly reduce your costs and give you wider options for raw materials in times when the ready wire is not available.

Equipment Accesories

There are other tools that play a key part in the operation which are crucial though not mandatory.

Sharpening Tool – This is used to sharpen the cutting parts of the nail making machine which become blunt after a while say producing 1000 – 1500 kgs of nails. Blunt machines are slower and end up producing low quality nails.

Wire Load – This is a con shaped gadget used to hold the roll of wire as it is fed into the machine.

Dices for Wire Drawing Machine – These help the wire drawing machine achieve desired sizes.

Wire Drawing Powder – This is used to make the drawing run smoothly.

Butt Welding Machine – Wire could break during drawing or feeding into the machine. The butt welding machine is used to weld together the wire after such breakage.

Equipment Summary

The core equipment to get you started is the nail making machine and nail polishing drum. A wire drawing machine is great because of the cost savings but you can start without it. A sharpening tool is also good but you can find substitutes. Same with items like wire load and butt drawing powder. However if you have enough capital you should have all the equipment: they will make your operation more efficient.

Most equipment used by small scale nail manufactures in Kenya comes from China. Other major sources are India. There are also a few jua kali machines but these are yet to get a proper footing. Subsequently the business is dominated by the imported machines. There are no proper dealers of nail making machinery in Kenya. You will find when a machine it’s being sold it’s an independent importer buying from China and reselling locally, or a second hand machine by someone who has quit the business for one reason or another. You should not be intimidated by the importation process; it’s not as complex.

To help better understand the equipment here are some examples from a few reputable suppliers in China and India.

Example: Supplier One: Machines, Features, Prices
(This is a supplier in China)

Z94-1C Nail Making Machine:

Model	Z94-1C
Max. dia. of nail	1.6mm
Min. dia. of nail	0.9mm
Max. length of nail	25mm
Min. length of nail	9mm
Output	450pcs/min
Power of motor	380V, 3-phase, 50HZ, 1.5kw
Dimension	150x130x120cm
Weight	1200kg
FOB Shanghai China Price	US\$2,300



Z94-2C Nail Making Machine:

Model	Z94-2C
Max. dia. of nail	2.8mm
Min. dia. of nail	1.2mm
Max. length of nail	50mm
Min. length of nail	16mm
Output	350pcs/min
Power of motor	380V, 3-phase, 50HZ, 2.2kw
Dimension	170x130x140cm
Weight	1450kg
FOB Shanghai Price	US\$2,900



Z94-3C Nail Making Machine:

Model	Z94-3C
Max. dia. of nail	3.4mm
Min. dia. of nail	1.8mm
Max. length of nail	75mm
Min. length of nail	30mm
Output	310pcs/min
Power of motor	380V, 3-phase, 50HZ, 3kw
Dimension	200x140x140cm
Weight	1800kg
FOB Shanghai Price	US\$3,600



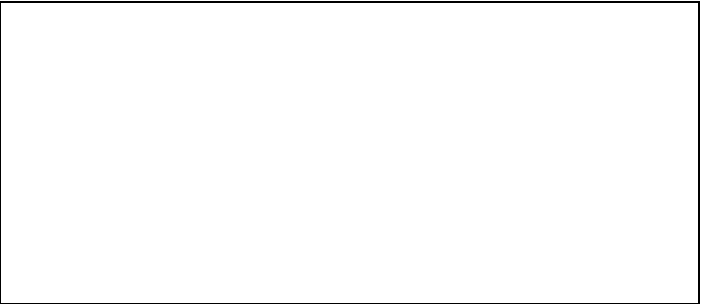
Z94-4C Nail making machine:

Model	Z94-4C
Max. dia. of nail	4.5mm
Min. dia. of nail	2.8mm
Max. length of nail	105mm
Min. length of nail	50mm
Output	260pcs/min
Power of motor	380V, 3-phase, 50HZ, 4kw
Dimension	220x160x165cm
Weight	2000kg
FOB Shanghai Price	US\$5,200



Z94-5C Nail Making Machine

Model	Z94-5C
Max. dia. of nail	5.5mm
Min. dia. of nail	3.0mm
Max. length of nail	150mm
Min. length of nail	70mm
Output	200pcs/min



Power of motor	380V, 3-phase, 50HZ, 5.5kw
Dimension	260x165x175cm
Weight	2500kg
FOB Shanghai Price	US\$6,800



Z94-6C Nail Making Machine:

Model	Z94-6C
Max. dia. of nail	6.0mm
Min. dia. of nail	4.1mm
Max. length of nail	180mm
Min. length of nail	100mm
Output	160pcs/min
Power of motor	380V, 3-phase, 50HZ, 11kw
Dimension	360x205x214cm
Weight	6500kg
FOB Shanghai Price	US\$15,800



Umbrella Nail (Roofing Nail) Making Machine

Model	WZ94-4C
Max. dia. of nail	4.5mm
Min. dia. of nail	2.8mm
Max. length of nail	100mm
Min. length of nail	50mm
Output	220pcs/min
Power of motor	380V, 3-phase, 50HZ, 4+0.75kw
Dimension	200x150x200cm
Weight	2600kg
FOB Shanghai Price	US\$7,000



Product:



U Shape Nail Making Machine

Model	UZ94-4C
Max. dia. of nail	4.5mm
Min. dia. of nail	2.8mm
Max. length of nail	100mm
Min. length of nail	50mm
Speed	930rpm
Output	150pcs/min
Power of motor	380V, 3-phase, 50HZ, 4kw
Dimension	245x135x135cm
Weight	1800kg
FOB Shanghai Price	US\$7,200



Product:



Double Cap Nail Making Machine

Model	SZ94-4C
Max. dia. of nail	4.5mm
Min. dia. of nail	2.8mm
Max. length of nail	100mm
Min. length of nail	50mm
Speed	930rpm
Output	150pcs/min
Power of motor	380V, 3-phase, 50HZ, 4kw
Dimension	245x135x135cm
Weight	1800kg

FOB Shanghai Price

US\$6,900



Product:



To help compare the above different machine let us tabulate the key features:

	Z94-1C	Z94-2C	Z94-3C	Z94-4C	Z94-5C	Z94-6C	WZ94-4C	UZ94-4C
Max. dia. of nail	1.6mm	2.8mm	3.4mm	4.5mm	5.5mm	6.0mm	4.5mm	4.5mm
Min. dia. of nail	0.9mm	1.2mm	1.8mm	2.8mm	3.0mm	4.1mm	2.8mm	2.8mm
Max. length of nail	25mm	50mm	75mm	105mm	150mm	180mm	100mm	100mm
Min. length of nail	9mm	16mm	30mm	50mm	70mm	100mm	50mm	50mm
Output	450pcs/min	350pcs/min	310pcs/min	260pcs/min	200pcs/min	160pcs/min	220pcs/min	150pcs/min
Power of Motor	380V, 3-phase, 50HZ, 1.5kw	380V, 3-phase, 50HZ, 2.2kw	380V, 3-phase, 50HZ, 3kw	380V, 3-phase, 50HZ, 4kw	380V, 3-phase, 50HZ, 5.5kw	380V, 3-phase, 50HZ, 11kw	380V, 3-phase, 50HZ, 4+0.75kw	380V, 3-phase, 50HZ, 4kw
Dimension	150x130x120cm	170x130x140cm	200x140x140cm	220x160x165cm	260x165x175cm	360x205x214cm	200x150x200cm	245x135x135cm
Weight	1200kg	1450kg	1800kg	2000kg	2500kg	6500kg	2600kg	1800kg
FOB Shanghai Price	US\$2,300	US\$2,900	US\$3,600	US\$5,200	US\$6,800	US\$15,800	US\$7,000	US\$7,200

Equipment Terminology

From the above you can observe the key features that differentiate nail making equipment. Let us look at them closely:

- **Diameter of the nails** – Basically this is the thickness of the nails. A machine will have a range of nail diameters that it can produce. For nails of the same size there will be slight differences in the thickness. For

diameters outside what the range then you have to go for a different machines. As you shop have an idea of the thickness range you want.

- **Length of Nails** – Like we mentioned nails are of various sizes say 1 inch, 2 inch, 3 inch and so forth. Machines are set to make nails of a range of lengths say 2-4 inches. Look at this metric to make sure that you are purchasing equipment that can produce the range of lengths that you require depending on who your target market is.
- **Output** – This refers to how many nails that a machine can produce within a given time say a minute. This figure can be converted to weight nay kilograms depending on the size and thickness of the nail. For instance 300 nails of greater length and diameter will weigh more than those that are shorter and thinner. The output will help you estimate your production in a day. Look at the production in a day, demand available and costs to help determine what capacity you need to break even and make profit. In the lower ranges of the machines the difference in output might not be so significant, however seemingly small differences of say 50 nails per hour will have a comparatively bigger impact on the amount of nails that you can produce in a day.
- **Power of motor** – This will determine how powerful the equipment is. A motor is a key part of the nail making machine. Keeping everything constant a ‘weak’ motor will mean lower production. On the other hand the more powerful a motor is the higher the production and electricity consumption.
- **Dimension** – This refers to the physical size of the equipment. It includes the length, width and height. Consider the dimension when hunting for your premises. You need space that will fit the main nail making equipment and accessories such as nail polishing drum, wire drawing, packaging among other. You also need working space too. We refer back to this when looking at the premises.
- **Weight** – This refers to the physical weight of the machine. This becomes a factor when determining the premises. Is the floor and structure strong enough to handle the weight of the equipment?
- **Price** – This is the price of the equipment at the port of Shangai in China but exclusive of transport, insurance and other charges up to the port of Mombasa. We will come back to this.

Now in addition to the above core equipment there are also accessory equipment. In the case of the above supplier; the package of accessory equipment will be as follows:

Nail Polishing Machine

Model	Capacity/2h	Motor	Dimension	Weight	FOB Shanghai
SD-600	600kg	4kw	190x100x130cm	1000kg	US\$1,200.00
SD-1000	1000kg	7.5kw	230x150x160cm	1300kg	US\$2,000.00



Cutting Tool Grinder

(grinding nail s, make it sharper)

200kg

Power: 0.75 Kw

Size: 800 x 600 x

900mm [FOB](#)

[Shanghai: US\\$900.00](#)

[\(With one set Grind Stone, 4pcs\)](#)



Wire pay off

Capacity:

[US\\$100.00/Pc](#)

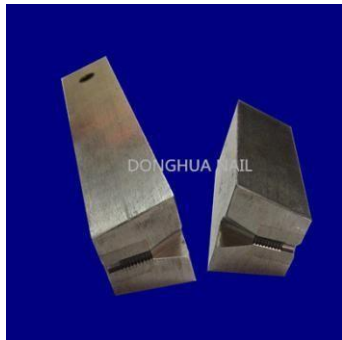


Spare Parts

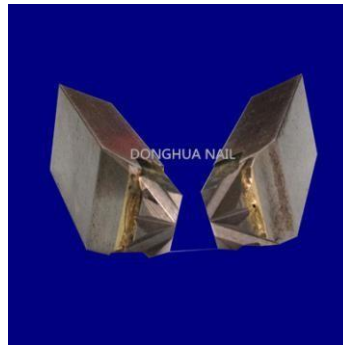
The equipment could also come with spare s of the parts that wear out fast. In the case of the above company these are as follows:

MODEL	NAME	QTY'	UNIT PRICE	SUB TOTAL
Z94-1C	NAIL MOULD	15	US\$17.00	US\$255.00
	NAIL CUTTER	15	US\$19.00	US\$285.00
	PUNCH PIN	15	US\$7.00	US\$105.00
	TOTAL AMOUNT :			US\$645.00

Z94-2C	NAIL MOULD	15	US\$27.00	US\$405.00
	NAIL CUTTER	15	US\$27.00	US\$405.00
	PUNCH PIN	15	US\$9.00	US\$135.00
	TOTAL AMOUNT :			US\$945.00
Z94-3C	NAIL MOULD	15	US\$29.00	US\$435.00
	NAIL CUTTER	15	US\$29.00	US\$435.00
	PUNCH PIN	15	US\$10.00	US\$150.00
	TOTAL AMOUNT :			US\$1,020.00
Z94-4C	NAIL MOULD	15	US\$34.00	US\$510.00
	NAIL CUTTER	15	US\$34.00	US\$510.00
	PUNCH PIN	15	US\$12.00	US\$180.00
	TOTAL AMOUNT :			US\$1,200.00
Z94-5C	NAIL MOULD	15	US\$36.00	US\$540.00
	NAIL CUTTER	15	US\$36.00	US\$540.00
	PUNCH PIN	15	US\$13.00	US\$195.00
	TOTAL AMOUNT :			US\$1,275.00
Z94-6C	NAIL MOULD	10	US\$50.00	US\$500.00
	NAIL CUTTER	10	US\$50.00	US\$500.00
	PUNCH PIN	10	US\$18.00	US\$180.00
	TOTAL AMOUNT :			US\$1,180.00



Nail Mould



Nail Cutter



Punch Pin

Now let us look at some set ups based on the above equipment and prices:

Set Up Scenario One:

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	Z94-2C	1	US\$2,900.00	US\$2,900.00
Nail Making Machine	Z94-4C	1	US\$5,200.00	US\$5,200.00
Nail Polishing Machine	SD-1000	1	US\$2,000.00	US\$2,000.00
Cutting Tool Grinder	2M6-6	1	US\$900.00	US\$900.00
<u>Total FOB SHANGHAI:</u>				<u>US\$11,000.00</u>

Assume you want to manufacture nails between 0.5 inches and 4 inches. The main equipment you will require are:

Set Up Scenario Two:

Say you want to manufacture nails between 2- 4 inches, then you will require

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	Z94-4C	1	US\$5,200.00	US\$5,200.00
Nail Polishing Machine	SD-1000	1	US\$2,000.00	US\$2,000.00
Cutting Tool Grinder	2M6-6	1	US\$900.00	US\$900.00
<u>Total FOB SHANGHAI:</u>				<u>US\$8,100.00</u>

Set Up Scenario Three

In this case you want to make nail between 0.5 and 5 inches:

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	Z94-2C	1	US\$2,900.00	US\$2,900.00
Nail Making Machine	Z94-4C	1	US\$5,200.00	US\$5,200.00
Nail Making Machine	Z94-5C	1	US\$6,800.00	US\$6,800.00
Nail Polishing Machine	SD-1000	1	US\$2,000.00	US\$2,000.00
Cutting Tool Grinder	2M6-6	1	US\$900.00	US\$900.00
<u>Total FOB SHANGHAI:</u>				<u>US\$17,800.00</u>

Set Up Scenario Four :

Say you want to manufacture umbrella nails. You require:

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	WZ94-4C	1	US\$7,000.00	US\$7,000.00
Nail Polishing Machine	SD-1000	1	US\$2,000.00	US\$2,000.00
Cutting Tool Grinder	2M6-6	1	US\$900.00	US\$900.00
<u>Total FOB SHANGHAI:</u>				<u>US\$9,900.00</u>

The above are just the price of equipment at Shanghai. But we will come back to these and other costs later.

Example : Supplier Two; Machines, Features , Prices

Let us look at a different supplier, this time from India.

Here is a summary of the equipment and features:

Model	Working Range				Nails Per Minut e	Power HP	APPROX FLOOR AREA	Production per 8 Hour
	Wire Diameter		Nail Length					
	m.m	S.W.G	m.m	Inch				
EN 1	0.9-1.8	20-15	12-40	½-1.5	550	1.5	1100*950	92 Kg.
EN 2	1.6-2.9	16-11	12-75	½ - 3	40	2.0	1375*950	256 KG.

					0			
EN 3	2.0-4.1	14-8	25-100	1-4	30 0	3.0	1680*1000	600 Kg.
EN 4	3.25-4.88	10-6	25-125	1-5	20 0	5.0	1760*1100	700 Kg.
EN 6	3.25-6	10-4	50-150	2-6	15 0	7.5	2130*1377 0	1000 Kg.

PRICE LIST

Description	Rate -USD	PACKING -USD
EN 1 Wire Nail Machine	3300	100
EN 2 Wire Nail Machine	4700	150
EN 3 Wire Nail Machine	6500	200
EN 4 Wire Nail Machine	7700	250
EN 6 Wire Nail Machine	1550	300
Polishing Drum 250 Kg.	0	250
Polishing Drum 500 Kg.	1800	300
Cutter Grinder	2100	100
Wire Stand	1000	Unpacke d
	100	

Let us pick one of the machines the EN 3 which can make nails of 1-4 inches.

Wire Nail Making Machine EN – 3

Technical Data	
Length of Nail (Inches)	1” – 4”
Nail Length (mm)	25- 100
Wire Diameter (SWG)	14 – 8
Wire Diameter (mm)	2.0 – 4.1 mm
Nails Per Minute	350
Power Require (HP)	3.0
Net / Gross Weight	975 - 1145
Floor Area (mm)	1610 x 1020
Production Per 8 Hour (75%)-	600 Kg.



Production Estimate

Wire Thickness	Nail Length in Inches				
	1.50” Inch	2.00” Inch	2.25” Inch	2.50” Inch	3.00” Inch
8 SWG (4.1 mm)	520 kg.	640 kg.	730 kg.	875 kg.	975 kg.
9 SWG (3.6 mm)	475 kg.	550 kg.	640 kg.	795 kg.	850 kg.
10 SWG (3.2 mm)	370 kg.	480 kg.	580 kg.	685 kg.	785 kg.
11 SWG (2.9 mm)	325 kg.	375 kg.	480 kg.	530 kg.	675 kg.
12 SWG (2.6 mm)	275 kg.	350 kg.	425 kg.	475 kg.	510 kg.
13 SWG (2.3 mm)	225 kg.	275	350 kg.	425 kg.	450 kg.
14 SWG (2.0 mm)	185 kg.	215	250 kg.	300 kg.	375 kg.

Equipment Terminologies More

As you can see the above there are no major differences between the various suppliers in terms of feature. The slight differences are in terminologies.

The production estimate is for 8 hours a day and depends on the length and thickness of the nails. Prices vary between various suppliers. SWG means standard wire gauge, a British standard used to measure the thickness of wires. It’s not very popular but often used by Indian manufacturers due to their British heritage. Basically it refers to the thickness or diameter of the nail.

As is perhaps now clear there are no set standards on what a machine can make thus you find one will have a machine that can make 1-4 inches, while another limits to 2-4 inches. This is informed by what they feel the market will favourably response to.

In all cases a good nail making machine should be efficient in order to produce the desired quantities within a given time, it should not breakdown easily neither wear after a short duration. In this regard it should last for long. And because you are using it for business the maintenance costs should be low.

Let us consider some scenarios.

Supplier Two: Set Up Scenario One

Here you want to manufacture nails between 0.5 inches and 4 inches. You will need:

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	EN2	1	US\$4,850.00	US\$4,850.00
Nail Making Machine	EN3	1	US\$6,700.00	US\$6,700.00
Nail Polishing Machine		1	US\$2,400.00	US\$2,400.00
Cutting Tool Grinder		1	US\$1100.00	US\$1100.00
<u>Total FOB INDIA</u>				<u>US\$15050.00</u>

Compare this with the Chinese equivalent of \$ 11000

Supplier Two: Set Up Scenario Two

Assume you are making nails 1-4 inches. You will need:

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	EN3	1	US\$6700.00	US\$6,700.00
Nail Polishing Machine		1	US\$2,400.00	US\$2,400.00
Cutting Tool Grinder		1	US\$1100.00	US\$1100.00
Total FOB INDIA				US\$10200.00

Supplier Two: Set Up Scenario Three:

Let us say you want to make 0.5 to 5 inches.

Machine Name	Model	Qty.	Unit Price	Sub Total
Nail Making Machine	EN1	1	US\$3,400.00	US\$3,400.00
Nail Making Machine	EN4	1	US\$6,700.00	US\$7,950.00
Nail Polishing Machine		1	US\$2,400.00	US\$2,400.00
Cutting Tool Grinder		1	US\$1100.00	US\$1,100.00
Total FOB INDIA				US\$14,850.00

Compare with the Chinese example above which requires 17,800 and three nail making machines.

Example : Supplier Two; Machines, Features , Prices

Let us look at one more supplier from China. In this case we take a different approach and reproduce an invoice from the company. For better understanding we have modified the simple description part.

Zhengzhou Uniwin Machinery and Equipment Co.,ltd Add:No 10 Hanghai road,Zhengzhou,450000 China. Tel:+8615036110423 Email:sophia@nailmakingmachine.net Web:www.nailmakingmachine.net PROFORMA INVOICE						
To:			Invoice Date:Nov.27 2017			
Attn:			Invoice NO.: 2017ZDJ-1127			
Tel:			Valid Date: June.30th 2018			
	Item	Simple Description	Picture	FOB Price	Qty	Value
	wire drawing system					

	Butt welding machine 3-8mm	Purpose: To weld the wire together after breakage Size:700*700*1000mm Weight: 40kg		300	1	300
	Sharpening mill 2-12	To sharpen head of wire before feed into wire drawing machine Power: 2.2kw size: 800*800*1200 mm weight: 100kg		850	1	850
	Water Cooling Drawing machine WSL500(3drums) With frequency converter to adjust speed	Purpose: to get the diameter of the steel wire as required. Power: 15kw(first drum)+15kw(second drum)+15kw(third drum) Size: 3400*1100*1250 Weight:2.5 ton		9600	1	9600
	Dice for wire drawing machine	Dice of dia for different size nails		10	100	1000
	wire drawing powder	make the drwaing smoothly		500	1 tons	500
	Nail making system					

	Nail making machine Z94-3C	Motor power:3 kw Diameter of nails: 1.8-3.4 mm Length of nails:30-80 mm Speed:320 pcs/min Weight:1.5 tons Size: 1850*1200*1350mm		4000	1	4000
	Nail making machine Z94-4C	Motor power:4 kw Diameter of nails: 2.8-4.5 mm Length of nails:50-100 mm Speed:280 pcs/min Weight:2 tons Size: 2350*1500*1450		5500	1	5500
	Nail making machine Z94-5C	Motor power:5.5 kw Diameter of nails: 3.5-6.0 mm Length of nails:100-150 mm Speed:220 pcs/min Weight:2.3 tons		7000	1	7000
	Polishing machine SD-1000	Polishing the finished nails,make it brighter Motor power: 5.5kw Capacity: 1000kg/time(it will take 2-3 hours per time) Size: 2300*1200*1200mm Weight:1000kg		2400	1	2400
	wire reel	to hold wire for nail making machine Size:800*800*1000 Weight: 10kg		100	6	600
	Nail mould	nail mould		25	20	500
	Nail knife	to cut wire to make the nail point		25	20	500
	Pin punch	punch the wire to make the nail head		10	20	200
Remark:capacity about 2-6ton per 8 hours.						
Total FOB Price						\$ 32,950

1. Term of payment: 30% TT Deposit, 70% TT before delivery.

2. Time of delivery: within 20 days after receiving the advance payment

3. Delivery city: Tianjin port of China

4. Bank details:

Bank Information:

BENEFICIARY: ZHENGZHOU UNIWIN MACHINERY AND EQUIPMENT CO.,LTD

BANK: BANK OF CHINA HENAN BRANCH

ADD: HUAYUAN ROAD 40TH ZHENGZHOU CITY HENAN CHINA

ACCOUNT NUMBER: 248144506326

SWIFT CODE: BKCHCNBJ530

THE BUYER:

THE SELLER: Sophia Zhao

This example is for a small but full scale operation that has a wire drawing machine, machines to make normal nails from 1-6 inches, sharpening tool, polishing drum and accessories and spare parts. Still you can pick only the machines that you require based on your resources and market. The above is the ideal set up, but then again at the start you can specialize in the most in demand nails and use extra resources to market, acquiring raw materials and as working capital.

From all the above examples you can see that there are several set ups that you can go for. It will depend on the resources you have at your disposal, your market and the kind of nails that you want to produce.

You will also note the equipment combinations and specifications will vary between the suppliers. Since they are in business they will try selling to you as many of the equipment as possible, but simply buy what you need.

Factors To Consider When Purchasing Equipment

Capacity

The machines come with different capacities usually measured in kilograms per hour. Choose the capacity based on the cash at hand, the share of market you plan to win and of course your future projections.

It's preferable to initially have idle capacity than to struggle to meet increased demand as a result of low capacity. This does not mean that you should go for the maximum size but something reasonable: 100 kg/ hour or so is fair enough.

Support

You should look for a dealer who offers support of sorts. This could be in terms of warranties, spare parts and even servicing whenever possible.

Because most of the companies do not have a local presence it might not be possible to get full commissioning and service support free of charge. Often a company will give you the option of sending a technician to help with installation, training and commissioning. However you will have to pay for the expenses such as flight and accommodation. In addition you will be required to pay the technician an allowance which averages \$ 100 per day. This is not a necessary cost for a nail making machine considering that it's not a very complex machine. You can look for local technicians to help you in installations. Only in extreme cases should you 'import' the technicians.

Always have clear ideas of what warranties cover, how soon you can get spare parts and technicians in case of a breakdown.

Price

There are quite some price variations for the equipment .Although variations will depend on factors such as capacity, brand and extra features, at times prices differences are for the same equipment but from different dealers.

Look for the best deal. For equipment the best deal is not necessarily the cheapest, look at everything as a whole including other factors such as ease of operation, warranties and running costs.

Also look at what the price covers. For instance some manufactures will quote the price of making the machine at their factory. You have to add extra costs for transport from the factory to the port, local (manufacture's country) taxes, packaging and such other costs.

Ease of operation

A complex system is not necessarily better. Look for a machine that is easy to use. This way you don't spend so much time training your staff. You are more efficient if operators are sure of what they are doing and even non technical staff are able to run the machine.

Running Costs

Consider the running costs. The key among them being power consumption, how often it requires service, how many people are required to operate it, the price of spare parts and its life ' expectancy' ; keeping everything constant how long will the equipment last before you are required to replace.

Physical Size

Nail making machines even of the same capacity come in different designs and sizes. The machine should be able to fit your premises, and leave you with enough space to work. Consider both the length and the height. If the machine can't fit and there are no alternative premises then seek to know how if it can be assembled in such a way that it fits.

Price and Costs

As you have noted above all the prices are in US dollars. That is the standard when foreign companies are giving quotations. You can covert to Kenyan shillings by multiplying with the current exchange rates.

Something to note too is that the prices are F.O.B (Free on Board) meaning they exclude the costs of freight, insurance and related which you will bear... It will cost about Kshs.200, 000 to transport a container from China to Mombasa.

No custom tax is charged on these kind of machinery. Nonetheless there are other kinds of fees that will be charged at the port. These will include:

- IDF Fee - 2.25% of CIF
- concession fee - Kshs. 250.00
- Railways Development Levy - 1.5% of CIF
- Handling - at cost
- Transport - at cost
- IDF application fee – Kshs.1000.00
- Documentation – Kshs. 2000.00
- Agency fee - Depends on the agent but budget at least Kshs.15,000

Process of Buying Equipment

The process of buying equipment could follow the below general steps:

- ✓ Identify the nails that you want to make. Let the market that you want to target and the opportunity you seek to seize be the guide.
- ✓ Look at your resources (and market) and decide on the equipment you want. First what capacity are you seeking, do you need and are you able to afford a wire drawing machine, the sharpening tool and other accessories? If short on resources what can you prioritize?
- ✓ Approach different suppliers with your needs and get quotations. Give about a week to get all quotations since some suppliers will take time to reply.
- ✓ Look at the quotations. Consider the features of the machines as we noted above, the prices, terms such as warranty, support and delivery time.
- ✓ If satisfied make the down payment, wait for the agreed period, get documentation and notification when shipment begins.
- ✓ Contact a clearing agent to help you clear the equipment.
- ✓ Transport to your site.

Suppliers

There are many suppliers of nail making equipment. Most of the suppliers selling to small and medium scale businesses are based in China and India. This is a good starting point because of affordability and established trade channels with Kenya.

Finding suppliers has been made easy by the internet and particularly markets such as Alibaba.com for Chinese suppliers and Indiamart.com for India suppliers. Still to jump start you here are some companies that you can approach directly. Some of which we have used their products in the examples above.

Company	Location	Contacts
Zhengzhou Uniwin Machinery and Equipment Co. (Very reputable company, quick communication, knowledgeable and assistance in selecting)	China	Tel:+8615036110423 Email:sophia@nailmakingmachine.net Web:www.nailmakingmachine.net
Ekta Nail Machine (Fairly good Indian company with a variety of products)	India	ektanailmachine@gmail.com www.ektanailmachine.com
Hangzhou Candid Co.Ltd (Chinese company with relatively fair prices for some items)	China	Tel: +86 571 87924031 www.china-equipments.com zmec@china-equipments.com
Wuxi Donghua Nail Making Machinery Co., Ltd.	China	Tel: +86 510 88711089 Mobile: +86 15951516141(WhatsApp & WeChat) Website: www.ChinaNailMachine.com E-mail: sales@ChinaNailMachine.com
Hems Machines	India	91 79 40305985 Email : hemsmachines@gmail.com Web link : http://www.indiamart.com/hemsmachines/
		Phone : +91-183-2275900 , FAX : +91-183-

Gurinder Engineering Works		2275900 Mobile : +919988070520 , EMAIL : sales@gurinderenggworks.com Website : www.gurinderenggworks.com
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Premises

The premises that you require for the business should be big enough to first fit the machines, have a working area, a store and an administrative area of sorts.

Layout & Overview

The layout could be something like this:



The above is just a simplified guide and you could modify depending on the nature of the premises, space available and the scale of your operation.

The production area is where the equipment will be placed and where the actual production of the nails will happen. Next to the production area will be the store where raw materials will be stored and finished products held before shipping.

The administrative area will hold the managerial staff.

To get an idea of the size that you require let us look at sizes of some of the machines:

Model	Size of Nails	APPROX FLOOR AREA (Meters)
EN 1	½ -1.5	1100*950 1.1*0.95
EN 2	½ -3	1375*950 1.373*0.95
EN 3	1-4	1680*1000 1.68*1
EN 4	1-5	1760*1100 1.76*1.1
EN 6	2-6	2130*13770 2.13 *13

As you can see nail making machines are not so huge. However don't be fooled by the small size to go for 'small' premises. Remember you need space for wire drawing, nail polishing, packaging, storage and other such functionality. Also if you have more than one nail making machine then you will need even bigger space. You could allocate each machine at least double its actual size. At times it will depend on the space that you have at your disposal and resources available. Ideally you should have a high roof so the air is not congested and the noise too much. You can start in very basic premises and expand as the business grows.

Basic facilities like toilets and a breakout room are important.

Renovation

It could be necessary to conduct some renovations to make the room ready for business. The following are some possible renovations. Not all could be necessary

Type of Renovation	Purpose
Lighting	Provide enough light to make sure production happens in a safe and conducive environment while at the same time keeping energy costs low.
Security System	To ensure the safety of the products and staff. Includes CCTV cameras and alarm systems.
Laying of Epoxy Floor	This is to protect the floor, equipment, staff and maintain a high level of hygiene
Painting	To make the work place physically appealing and friendly.
Fire Protection System	To help control and extinguish fire in case it erupts.
Security System	To help guard against theft.

Raw Materials

The basic raw materials for making nails are wires technically called low carbon wires MORE. Generally there are two types of wires that you can buy. First are the 'finished 'or ready wires. These are wires which have been made and 'set' for nail making. This is especially in terms of diameter. You just feed these wire in the nail making machine without any premodification.

The second type is the 'raw' wire. This means it's not ready for nail making and has to be modified. Often this is in terms of getting the right thickness for nail making. Thus the wire has to be modified using a wire drawing machine in order to fit the required dimensions for instance 2.8mm. Once the wire is 'drawn to the needed diameter it then fed into the machine.

The first type of wire is more expensive, but also requires less equipment. The second type is significantly cheaper but also requires an extra equipment; the wire drawing machine. The investment in the wire drawing machine is in most cases worth it in term of margins that you will get.

The ‘finished’ wire is largely bought directly from the large steel companies. And then not all of them. Some won’t sell to small nail making machines, probably because they consider them a threat. This does not mean that wires are not available; they are from some of the companies. Ready wire nail is also available from independent suppliers at relatively lower costs. The independent suppliers import, smuggle from the large steel companies or recycle from used steel.

The raw wire is available from some of the large steel companies and also from some independent suppliers. One good place to start is jua kali areas where you can find ‘waste’ steel which you can draw to make wire. If you don’t have a drawing machine then you cannot work with raw wire.

Making nails is more of a very basic transformation process; the wire getting reshaped to nails. This means that there is very minimal weight loss or gain. Ideally a kilogram of wire should give a kilogram of nails.

You can estimate the quantity of raw materials that you will need based on the output of your machine. Most equipment suppliers will define the output of a machine in terms of number of nails per hour. But there exist manufacture estimates to guide you. And you can confirm what number of nails make a kilogram after the first actual production. The number will depend on the length and diameter of the nails.

Here are is an example from one of the manufacture we had used in an earlier example:

Model	Speed (pcs/min)	Dia (mm)		1.6	1.8	2.0	2.2	2.6	2.8	3.0	3.5	3.8	4.2	4.5	5.0	5.5	6.0
		Length (mm)	Capacity (kg/h)														
1C	450	20		8.53													
		30		12.80													
2C	300	30		8.53	10.80	13.33	16.13	22.53	26.13								
		40		11.38	14.40	17.78	21.51	30.05	34.85								
		50		14.22	18.00	22.22	26.89	37.56	43.56								
3C	280	50			16.80	20.74	25.10	35.05	40.65	46.67							
		60			20.16	24.89	30.12	42.06	48.79	56.00							
		70			23.52	29.04	35.14	49.08	56.92	65.34							
4C	250	70							50.82	58.34	79.40	93.60	114.34	131.26			
		80							58.08	66.67	90.75	106.97	130.67	150.01			
		100							72.60	83.34	113.43	133.71	163.34	187.51			
5C	220	100								73.34	99.82	117.67	143.74	165.01	203.72	246.50	
		120								88.01	119.79	141.20	172.49	198.01	244.46	295.80	
		150								110.01	149.73	176.50	215.61	247.52	305.57	369.75	
6C	200	120											156.81	180.01	222.24	268.91	320.02
		150											196.01	225.01	277.80	336.13	400.03
		180											235.21	270.02	333.35	403.36	480.03

Production Estimate Example Two:

Wire Thickness	Nail Length in Inches				
	1.50" Inch	2.00" Inch	2.25" Inch	2.50" Inch	3.00" Inch
4.1 mm	520 kg.	640 kg.	730 kg.	875 kg.	975 kg.
3.6 mm	475 kg.	550 kg.	640 kg.	795 kg.	850 kg.
3.2 mm	370 kg.	480 kg.	580 kg.	685 kg.	785 kg.
2.9 mm	325 kg.	375 kg.	480 kg.	530 kg.	675 kg.
2.6 mm	275 kg.	350 kg.	425 kg.	475 kg.	510 kg.
2.3 mm	225 kg.	275	350 kg.	425 kg.	450 kg.
2.0 mm	185 kg.	215	250 kg.	300 kg.	375 kg.

The quantity could vary based on the number of hours that you are working. In both the above cases the estimate is based on 8 hours.

The importance of knowing the raw materials you require will help you plan. Without a clear idea you could find yourself without raw materials when you need them. This will result in working below capacity, not meeting demand and in the end increasing your costs. Having an idea of the raw materials required say on a weekly or monthly basis is especially important if you are located a significant distance from suppliers

To illustrate let us take a figure from the example above.

Assume you are making nail of 3 inches long and 2.9mm diameter. In eight hours you will have made about 675 kgs of nail.

If producing 8 hours for 30 days then in a month you will produce $675 * 30 = 20250$ kilograms (20.25 tonnes). On average in every tonne you could lose 5 kilograms of nail during the production process. Hence the weight loss in 20.25 tonnes will be $20.25 * 5 = 101.25$ kilograms.

Consequently to make 20250 kilograms of nails you will require 20351.25 ($20250 + 101.25$) kgs of wire rounded of to 20352. This is an estimate but it should guide you in predicting the raw materials you need. The weight loss could be higher or just slightly lower depending on your efficiencies.

Prices of raw materials will vary with suppliers.

Here are two who sell 'finished' wires. These are factory prices; the end price could be slightly higher depending on your location because of transport costs.

Wireprod – Kshs. 115 per kilogram

Tarmal – Kshs.95 kilogram (if within Nairobi)

Thus 20352 kgs of wire will cost Kshs.2, 340,480 if buying from Wireprod or Kshs. 1,933,440 per month if buying from Tarmal.

The ‘raw’ wire will vary between Kshs. 70 and Kshs.90 depending on where you source.

Suppliers of raw wire include some of the steel companies and independent importers. Other dealers are to be found in Jua Kali area near City Stadium and Kariobangi Light Industries. The average price of raw wire is Kshs.80 per kilogram.

Hence 20352 kilograms of raw wire will cost Kshs.1, 628,160

This is only a guideline, and very practical at that, of what to expect. Your raw material needs could be more or even less depending on the scale of your production and the resources you have. The prices will vary with the supplier and the material. Nevertheless they are in the range we have indicated above. Here are some contacts of suppliers:

Tarmal Wire Products

Off Mogadishu Rd, Industrial Area, Nairobi

0729 516 172.

info@tarmalsteel.com

They have branches in Mombasa and Kisumu.

Nails & Steel Kenya Ltd

Ryce East Africa, Kitui Rd/ Kampala Junction

0733 622 433

Nairobi

Wireprod Kenya

Athi River Road, off AddisAbaba Road

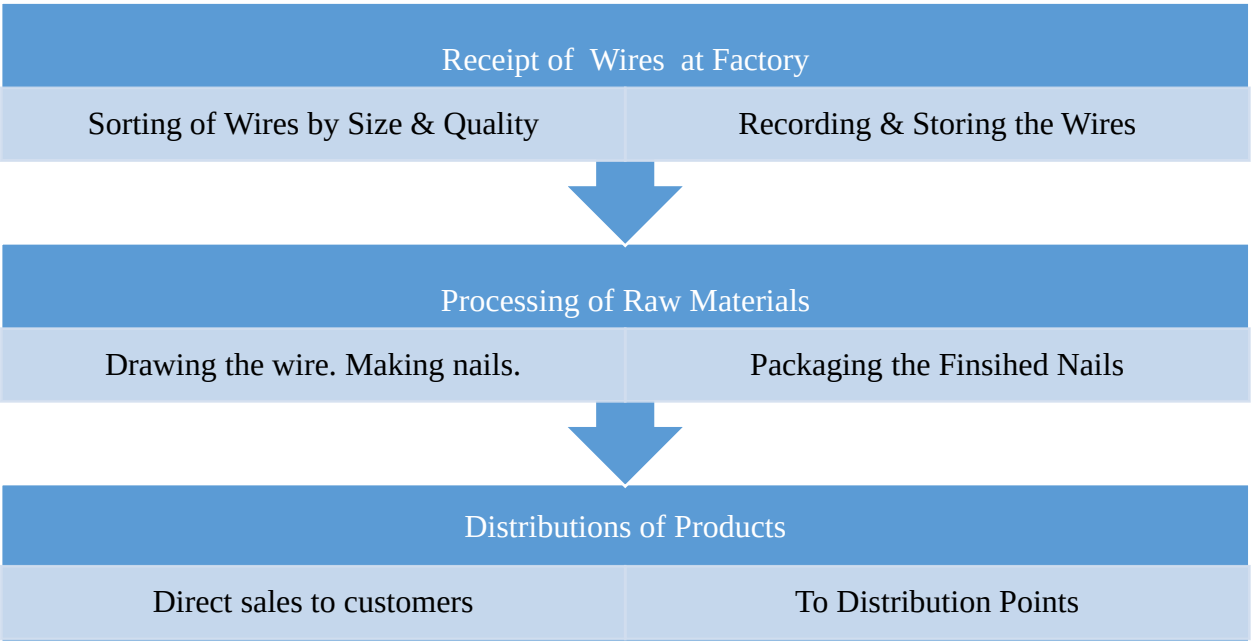
Nairobi

0723 860962

There are many steel manufacturers , you can get in touch to check prices and most fair prices.

Production Process

The production process will be more or less standard as for startup operation. The general flow will be:



Like we have stated previously the above is an oversimplification of the process; there are more details to think about:

- What quantities are you going to produce?
- What length and diameter of nails will you produce in a particular batch and in what quantities?
- What quantities of wire are required to produce a particular batch?
- Is there enough storage for the nails?
- Who is involved in the production? Are they available? And what part will each person play?
- How much will it cost to produce a particular batch? Are the resources available?

Whereas these could seem like simple matters they are the core of an efficient production unit. Where the factory is just producing without regard to demand, market conditions, inventory, clear communication the result is inefficiencies, excess inventory, unwanted products, unnecessary costs and eventually losses. This often happens with new manufactures that at the start are excited and get into an auto cycle of just producing.

Production Staff

Automatic nail making machines are not very technical and thus relatively easy to operate. The learning curve to operate the machine is not very steep, and the skill required not high. However it helps when the manpower has some technical background or interest in equipment. This could be in jua kali, construction or any other field. This is more so for the machine operators.

The skill to operate the equipment can be learned from the ground by anyone with more than passing interest. At the start there will be lots of trial and error before getting it right. An alternative, albeit a more costly one, is to bring in equipment supplier experts for a duration during which they train your staff and help in production for some time. In this case you will be required to pay for their air tickets, accommodation and pay them an average of \$100 per day. This is an unnecessary expense for a new operation considering there is locally available skill.

You should have just the right number of staff to run efficiently: not less or more staff. Each extra person you add to the operation increases your expenses. On the other hand if the operation is under staffed it leads to low quantity and quality.

A good practice is to start with just right the number of staff and increase them gradually as the business grows.

Operators

As a reminder the key steps in production are:

- Drawing the wire (If using raw wire)
- Nail Making
- Polishing
- Packaging

Ideally you would need an operator at every stage of the production. The operator is responsible for the machine at every stage. If you are not drawing wires then you don't need the wire drawing operator. Where the production is not continuous you don't need a permanent polishing drum operator. Packaging could require two workers because of loading and stocking the nails.

At the very basic you can start with two production staff, but ideally you should have at least four. You should look for all rounded persons who can perform a variety of duties. One of the operators could be in charge of all the other production staff.

As the business grows then you could consider having specialist staff like Production Manager who is in charge of all production. A quality controller who ensures set standards are met.

Administrative Staff

These are involved in the non production side of the business. Again in order to keep costs low you could start with as few as possible of the staff. If you are not personally running the business on a day to day basis you could need an operations manager. He or she will be responsible for all aspects of the business from production to sales, making sure everything is running smoothly. You could also need a salesperson; the guy who moves from hardware to hardware, site to site generating orders.

You need an accountant and at the start you could hire them on need basis for routine book keeping rather than have them on a permanent basis. A receptionist or administrative assistant is not necessary at the beginning; she could come later. A driver could be necessary if you have a vehicle for deliveries or picking raw materials. To insist at the start you should aim to keep your staff costs as low as possible without compromising quality and running of the business.

Costs & Margins

Like we mentioned earlier is not a process that adds

Like we mentioned earlier making nails is not a process that significantly adds or reduce weight of the final product. Using the example in the raw materials section this means that if you are buying nail wire at Kshs.97 per kilogram then making normal 3 inch nails and selling them at Kshs.110 per kilogram which is the average market price in April then the gross profit per kilogram is $Kshs.110 - Kshs.97 = Kshs.13$.

If as per the example you are producing 675 kilograms, and selling all of them then in a day you will have daily gross profits of $Kshs.13 * 675$ which is Kshs.8775. In 30 days you will make Kshs.263250.

Using the second example where you are buying nail wire at Kshs. 80 per making and making the normal 3 inch nails, and selling at Kshs.110 per kilogram then the gross profit per kilogram will be Kshs.110 – Kshs.80 which is Kshs.30.

If producing and selling 675 kilograms in a day then daily you will make gross profits of Ksh.30 * 675 which is Kshs. 20250. In 30 days you will have 30 * Kshs.20250 which totals to Kshs.607, 500.

Well relatively rosy amounts of profits in both cases. But then the business has expenses which will eat part of the gross profits. Let us now follow a more realistic and appropriate way of calculating your profits

The major expenses in a new nail making operation are the same as would be in a small to medium scale manufacturing unit:

- Salaries
- Rent
- Raw Materials
- Electricity
- Transport
- Communication
- Marketing
- Stationery
- Interest – If you have bank loans
- Miscellaneous

To illustrate possible costs and margins Let us take the case where you are using ‘finished nail’ wire which does not need to be drawn and that you are working 8 hours a day.

The major equipment you have will be:

Nail Making Machine

Nail polishing machine.

There will be other accessory machines that you will use as need be; these include a weighing scale, trolleys and sharpening equipment.

The process as is now clear is Nail Making – Nail Polishing – Nail Packaging

But it is the main equipment that needs operators. Both the nail making and nail polishing can be operated by one person. Although ideally the nail making machine can do with two operators. Nail packaging could do with two assistants.

Salaries

Let us use the example above where you have a small nail making business producing 3 inches nails. The key production processes will be nail making, nail polishing and packaging. If you are using ‘raw’ wire and have a wire drawing machine then there will be an extra step; wire drawing.

Still let us assume this is a lean operation you have four workers doing all production which we can breakdown as follows:

Equipment	Manpower & Salary	Total (Kshs.)
Nail Making Machine	1 operator @ Kshs.15,000 per	15,000

	month = Kshs.15,000	
Nail Polishing Machine	1 operator per @ Kshs.14,000 per month = Kshs.14,000	14,000
Packaging	2 assistants @ Kshs. 10,000 per month = Kshs.20,000	20,000
Total		49,000

Other than the production staff you might need other human resources to run the operations. This is more so if you are not personally preset to run the business. The key staff you could need are

Position	Requirements	Total (Kshs.)
Operations Manager	1 @ Kshs.20,000	20,000
Salesperson	1 @ Kshs. 17,000	17,000
Guards	1 @ Kshs. 16,000	16,000
Total		53,000

Total Salaries in a month will be: Kshs.49, 000 + Kshs.53, 000 = Kshs.102, 000

Rent

Kshs. 20,000 based on estimates of setting up in a county location and medium sized space with one machine

Raw Materials

From the Raw Materials scenario let us take it that you are buying from the two cheapest options.

For Tarmal 20,352 kgs of wire will cost Kshs. 1,933,440 per month. Remember the 20,352 kgs is the monthly requirement if you are producing normal 3 inch nails of 2.9 mm using the machine highlighted in the Raw Materials section whose output is about 675kgs in 8 hours.

If buying raw wire or from cheaper independent sources then it will average Kshs.80 per kilogram. Hence 20352 kilograms of raw wire will cost Kshs.1, 628,160

Electricity

Electricity consumption will depend on the machine. In the example we are using the nail making machine uses 4kw per hour. Total hours in a month will be 8*30 which is 240.

The average price of a kWh for a small commercial operation was Kshs 19.55. Thus for 240 hours that will be Kshs.4692. But there are equipment like the nail polishing, sharpening tool and also light bulbs.

We can very well estimate the average monthly consumption to be Kshs.14, 000.

You can use this tool to help you get an estimate of power consumption: <https://stima.regulusweb.com/>

Transport

This is to deliver finished products, raw materials and sales. This will depend on your location and market you are targeting. From a case study transport costs could amount up to Kshs.60, 000

Communication

This includes cost of airtime, internet and other communication. This operation could use an average of Kshs. 10,000 per month.

Marketing Expenses

These include expenses like marketing material and costs incurred by salespeople. Kshs. 25, 000

Stationery

These include receipt, invoices, payment vouchers and other office stationery. From similar operations this could add up to Kshs.8, 000.

Item	Total cost (Kshs)
Salaries	102,000
Rent	20,000
Raw Materials	1,933,440 (or 1,628,160)
Marketing Expenses	25,000
Electricity bill	12,000
Stationery	8,000
Communication (Telephone + Internet)	10,000
Transport	60,000
Total	2,170,440 (or 1,865,160)

The above for producing 20250 kgs of 3 inch nails per month.

At the April 2018 average price of Kshs.110 per kilogram total sales adds up to $\text{Kshs.110} \times 20250 = \text{Kshs.2, 227,500}$

Total expenses are Kshs.2, 170,440 in the case of the more expensive raw materials.

In this case the net profits will be $\text{Kshs.2, 227,500} - \text{Kshs.2, 170,440} = \text{Kshs.57, 0760}$

In the second case when using cheaper raw materials the net profits will be $\text{Kshs. 2,227,500} - \text{Kshs.1,865,160} = \text{Kshs.362, 340}$.

The above is just a guide but should give you a good idea. Expenses and profits could be lower or higher depending on the costs you incur, how much you are paying for everything and the actual sales.

Raw materials are the single largest expense. You should aim to source at the cheapest possible price, even if away from the official channels.

Salaries are also a significant expense. However you can only cut salaries or reduce staff as much without negatively affecting production. Still don't have any one not adding value to the company.

A better way to cut costs and increase profits is to grow sales. Higher sales mean that you will be required to increase productions in the process enjoying economies of scale. The percentage increase in expenses as a result of a rise production will be lower than the rise in profits.

Market Entry & Survey

Overview

The nails market is becoming increasingly competitive at all levels from local producers of all sizes to importers. Still there is exists very low brand loyalty when it comes to nails. This means that distribution is very key in getting into the market.

Indeed the level of information among consumers regarding who has made the nails that they are purchasing or using is low. The purchase process is usually “Nipe kilo moja ya misumari ya nchi tatu”. Rarely will a consumer mention a company by name. And often when they do it is in a rather vague manner “Usinipatie kama ile uliniuzia wakati mwingine, haikuwa mzuri”. Consumers get to know the company making nails mostly from the packaging which they see over the counter if buying in kilograms, and less than 50 at that, or if purchasing in boxes.

With the above in mind then your aim should be to have your nails available in as many shops as possible. Retailers and wholesalers in the hardware business are not excessively loyal to particular brands. They consider price and terms.

To understand the thinking of wholesalers and retailers regarding nails business, here are results of a survey we had done on their thinking with regard to nail business. Although the survey was focused on the retail side of the business, it should help you understand what is happening in the market.

Wholesaler & Retailers Market Survey Results

Retailers

The research sampled retailers located in Githurai, Kitengela, Kiambu, Ruiru, Gikomba, Ruai, Doonholm, and Kariobangi among other areas. Our choice of sample was informed by construction activities, diversity of consumers, distance from nail manufacturers and wholesalers.

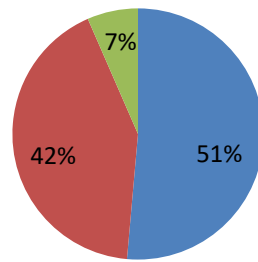
The survey looked at aspects of the businesses that will help understand behavior and attitudes of retailers towards the nail business.

Age of The Business

The survey sought to know how long the hardware shops have been in business.

Years In Business

■ 0 -5 years ■ 6 -10 years ■ Over 11 years



Observations

- No of years in business only partially determined where the retailer purchased nails. The younger retailers often purchased from wholesalers in their neighbourhood or those that are well known. On the other hand older retailers either purchased from the bigger well known wholesalers or directly from the manufacturers.
- The younger retailers are still trying to understand the market and at times are a little cautious. This is the reason some opt to purchase from the immediate wholesalers or those in well known areas such as Gikomba or Sheikh Karume Road.
- Wholesalers in their neighbourhood offer more flexibility in terms of minimum quantities required to enjoy reseller discounts. And because the margins in the nails business are relatively low, a retailer with low capital will be hesitant to buy large quantities of nails and a variety at that because it 'ties' the capital. Hence they start with a wholesaler who is not demanding in terms of quantities.
- Buying from a wholesaler located within a short radius also helps save on transport costs especially for retailers without a means of transport.
- Younger retailers also can't purchase directly from large manufactures either because of capital limitations or terms of the manufacturer who want to deal with established retailers only.
- No of years seemed to determine the relationship that the retailer had with the wholesalers. Short term credit is issued to retailers who have been in business longer.
- In two cases despite a retailer selling considerable nail volumes they didn't enjoy any credit from the wholesalers. This was tied to 'low' levels of trust.
- Trust comes with years in business among other factors. This is noteworthy because credit is generally frowned upon when it comes to nails but nevertheless given based on the relationship the retailer has with the wholesaler.

What It Means For A New Wholesaler

- ✓ Although loyalties are not entrenched and all hardware shops are potential customers younger stores are likely to shift to a new wholesaler who offers better terms than older retailers. The older retailers will likely consider other non monetary benefits that they could be enjoying from their wholesalers such as short term credit.
- ✓ Despite them being cautious younger hardware shops are more flexible, hungrier for profit and survival. Consequently they will be more open to a better deal in price, terms or approach.
- ✓ As a strategy a new wholesaler can start by focusing on the younger retailers before moving to the older of the hardware shops. It's possible to identify the new retailers by their set up, exterior, location in new building and areas.

Company Knowledge

All respondents were aware which company manufactures the nails that they sell. Even when the retailer purchases from a wholesaler they get to know who the manufacturer is. This knowledge was largely through packaging.

Also at times the retailers and customers were particular about the nail manufacturer they want. This was because of quality perceptions. At other times it was because of price differences.

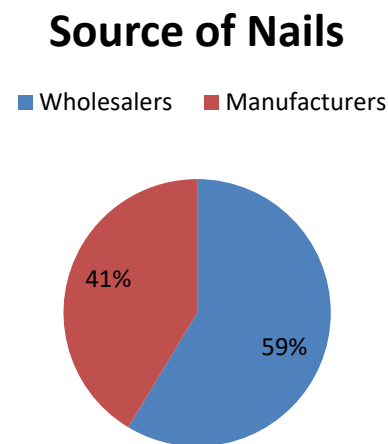
Interesting is that no retailer stocked nails from a single manufacturer rather they sourced from several. In addition to price and quality, choice of manufacturer was based on availability at wholesalers.

Source of Nails

To understand the distribution methods used by the various manufactures let us look at where retailers purchase nails.

One way to classify retailers is by their business model. Retailers sell in retail and wholesale, and retailers who only sold in retail.

For retailers who acted purely as retailers:



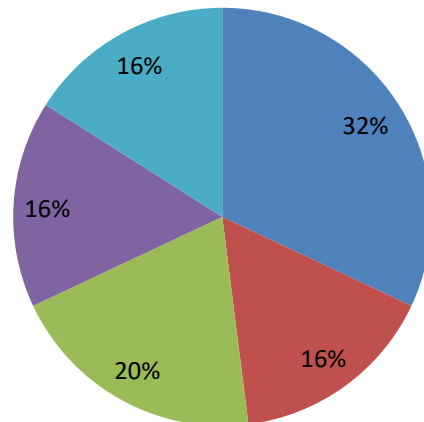
The retailers who bought directly from manufacturers were doing high volumes. The barriers to entry will depend on the company. Some of the manufacturers (We will revert to this a little later) have relatively low barriers and more flexibility such that retailers selling high volumes or with enough capital are able to access them.

Companies Selling To Retailers

The manufactures from which retailers purchased nails from were:

Manufacturer Selling Directly to Retailers

■ Tuffsteel ■ Jubilee Jumbo ■ Tarmal ■ Devki ■ Devsons



Generally manufactures avoided dealing with low volume traders because of logistics and dealer management involved, the reason some have relatively high barriers. Indeed a company like Devki will only sell to a retailer after getting a recommendation from a reputable wholesaler.

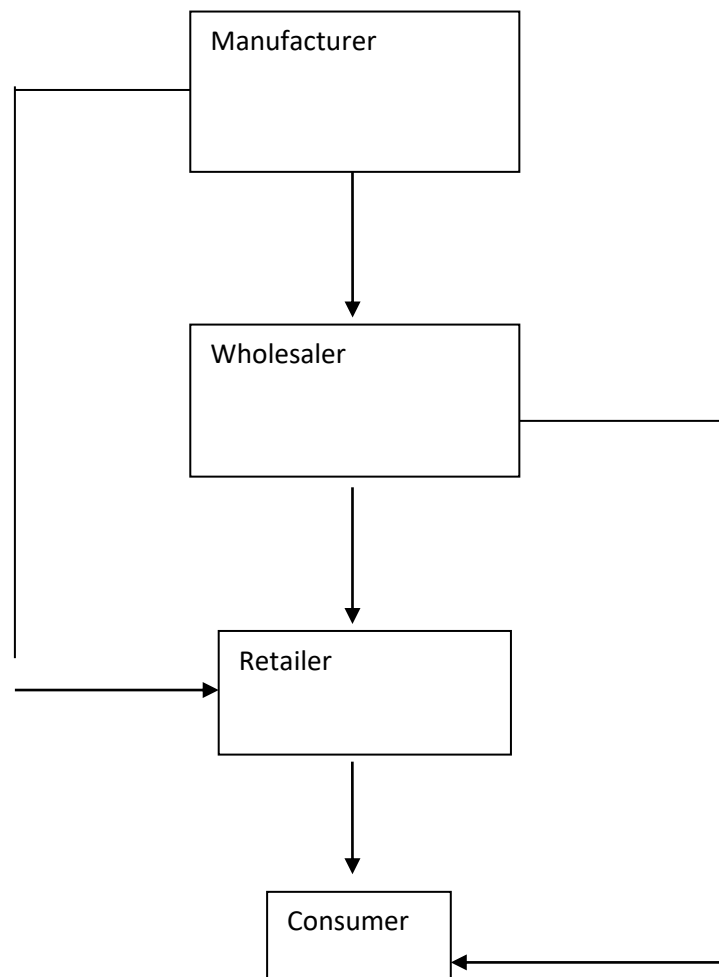
What It Means To A New Wholesaler

Wholesalers are still the main source of nails sold by retailers. The percentage of retailers buying directly from the main manufacturers is relatively small. Wholesalers will remain part of the nail supply chain for long and there are still opportunities for new wholesalers in the market.

A new wholesaler will be targeting the existing retailers and new stores.

From Company To Consumers

Before we go on let us look at the flow of nails from manufacturer to consumers;



The core nail supply chain is from manufacturer to wholesaler then from to retailer to consumer. However there are manufacturers who will directly sell to retailers. And there are wholesalers who will directly sell to consumers. Most small scale manufactures sell directly to retailers by passing wholesalers in order to keep their prices low and maintain margins.

All wholesalers we interviewed also sell in retail. Retail here meaning they sell to end users rather than selling to traders going to resell. If the quantities are high the price could be ‘wholesale’ price meaning that it’s the same price they would sell to a retailer. A contractor seeking to save money will go purchase at a wholesaler proper or retailer who offers ‘wholesale’ prices.

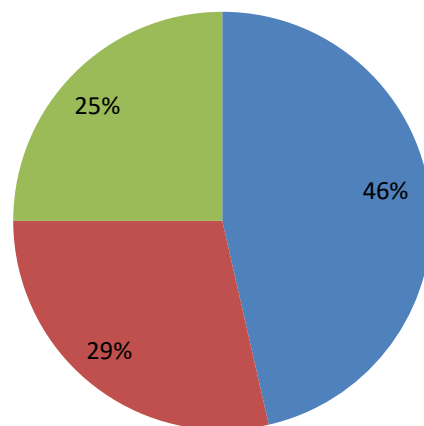
Instructive a large percentage of wholesalers start as retailers then as volumes increase graduate to wholesalers. At times sales representative will approach a high volume retailer and propose that he becomes a wholesaler. We will revert to wholesalers in the next section.

Wholesaler – Retailer Terms

When purchasing nails from wholesalers retailers enjoyed the following terms:

Wholesaler - Retailer Terms

■ Cash ■ Cash & Credit ■ Credit



Observations

Cash is the preferred method of transaction. A common argument is that since margins are relatively small credit will squeeze them further especially when quantities are low. The definition of low quantities varies between the different traders.

Still the realities of the business are such that a wholesaler will have to offer credit once in a while. Credit is offered on basis of trust and not necessarily volumes. Trust is built by loyalty, proximity, past payment history and the character of the owner.

Cash and Credit mean that a retailer can at times pay in cash or credit depending on his cash flow. In some circumstances a wholesaler could enjoy credit from one wholesaler and cash from another. A retailer will prefer credit when experiencing cash flow challenges. He could also go for credit when he has received a large order within a short notice. Alternatively is when he doesn't want to hold his capital in stock.

Credit is enticing to many retailers. However they are always prepared to pay cash because cash terms are more the norm than exception.

What It Means For A New Wholesaler

The market is ready for cash. And although credit can be used to win more retailers it should not be the initial option. If the present wholesalers are reluctant to offer credit then it means that a new wholesaler will find it even more difficult to manage credit.

Looking at what motivates a retailer to buy from one wholesaler or company as opposed to the other then we see price is the biggest consideration then followed by terms. Terms here mean credit or cash, transport and such business terms.

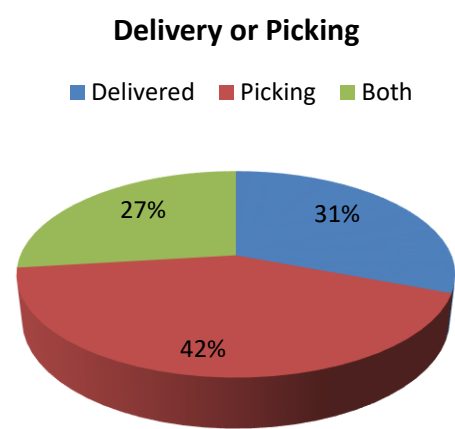
The ideal situation should be able to offer the most competitive prices and non monetary terms such as delivery (see below).

A new wholesaler should develop a checklist which helps him determine whether to offer credit or not. The checklist should be based on the frequency of purchase, past paying habits, how well the hardware runs and other such factors. Still a new wholesaler should not volunteer to offer credit even where the retailer does not need or want it.

Generally in the market for new products retailers arm twist suppliers knowing the new wholesaler wants to penetrate the market as soon as possible. Hence a retailer will say "I can't stock the nails unless you leave them with me and when I sell you come for cash". And a cunning retailer might always claim not to have sold any.

Push for cash first and offer credit on case by case basis. Still at times you will have no option but to offer credit.

Distribution



Observations

The largest percentage of retailers purchase and pick nails from the wholesalers. A significant number, 31%, have the nails delivered to their shops by the wholesalers, while still a sizeable 27% either pick the nails or have them delivered.

Of note among the wholesalers who deliver is that the retailer will have purchased a variety of items, and thus will not be delivering nails alone. The exception is when the wholesalers are importers specializing in nails only.

Retailers interviewed say they preferred picking the nails themselves from large wholesalers or manufacturers because sometimes there is so much bureaucracy which results in delays. Where the wholesaler delivers often it’s because the retailer has bought goods which make the cost of transport worth it.

And goods here mean a variety of hardware item not just nails. If a retailer is just purchasing nails and say 50kgs only it’s unlikely that a retailer will offer to deliver unless say the wholesaler is making another major delivery in the area. This applies where the retailer is located a considerable distance from the wholesaler. Where the wholesaler is near, a retailer will opt to buy and walk away with his nails.

What It Means For A New Wholesaler

Conversations with retailers who have to travel a considerable distance to get to a wholesaler say they would prefer to have the wholesaler deliver the nails. This is so as to save costs keeping in mind the heavy and bulky nature of nails.

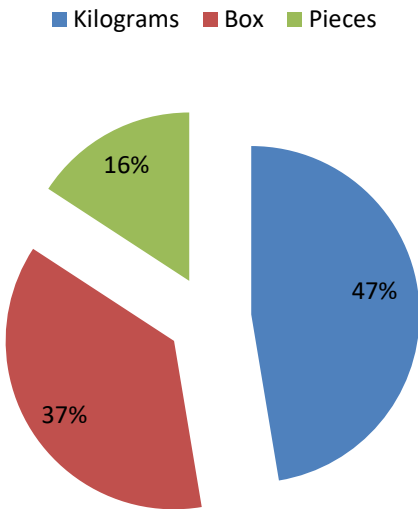
Picking the nails is especially a challenge where the retailer does not have a means of transport. Or even when he has the means but the quantities are not big enough to compensate on the costs of transport.

All this means that delivery to a retailers shop will be an appreciated value addition. One way this could work is by identifying routes and making deliveries on particular days. Another could be by locating in strategic locations that makes it possible to deliver within a radius using cost effective means of transport such as motorcycles and tuk tuks. The idea is to think of pricing and minimum quantities such that it’s always cost effective to deliver to the customer from the shop or warehouse. We will come back to this later.

Retailer – Consumer Quantities

The research sought to find out the measurements that retailers use to sell to consumers.

Retailer - Consumer Measurments



Observations

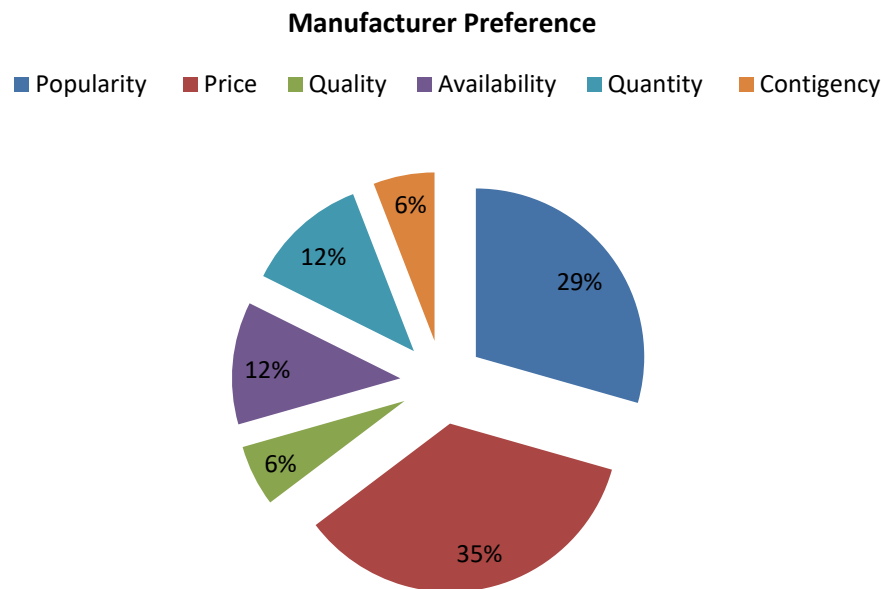
Most retailers sell nails in kilograms. Kilograms are breaking bulk from the 50kg sacks they buy from wholesalers. Indeed kilograms have always been the standard measurement of selling nails. A significant number sell in boxes. This is more so for the tack nails and some of the bigger nails. A few others will sell in pieces especially for nails above 4 inches. Retailers decide on the quantities of selling based on what they think will be most profitable to them and customer requests too.

What Does It Mean For A New Wholesaler

When setting minimum quantities and measurements a new wholesaler should partially consider the measurements used by retailers. The aim is to be as flexible as profitably possible. Hence if say a retailer wants a box of normal nails but only 10kgs of roofing nails then the wholesaler should be adaptable enough.

Company Preference

The research sought to know why a retailer would stock the nails of one company as opposed to the other.



Observations

Price was the most important factor in determining which manufacturer's nails a retailer stocked. Popularity is another crucial factor. Quantity and availability also played a role.

Availability means that if the most conveniently located wholesaler is stocking nails from a particular manufacturer the retailer will buy them without going the extra mile say to another wholesaler who stocks nails from a different company.

What It Means For A New Wholesaler

Price is a big consideration when thinking of ways to penetrate the market. It is the biggest influence on whose nails a retailer stocks. The other factor to consider is which nails are popular.

Popularity is often tied to particular locations such that you can find one brand popular in one region and another in a neighbouring estate. To a large extent this is linked to supply. If the popular wholesalers or the most conveniently located stock nails of a certain manufacturer then retailers and consumers are conditioned to like the brand.

A new wholesaler getting into the market and offering the right prices has a very high chance of making retailers defect to him irrespective of the popularity of a particular brand.

Consumers – Some Observations

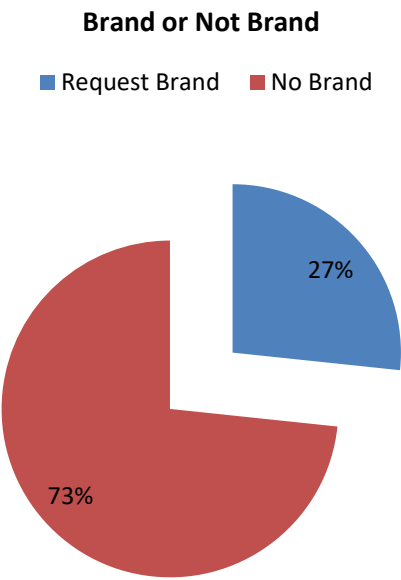
It's important for a wholesaler to understand the buying habits of consumers. In that line let us look at some of the consumer habits from a sample.

In constructions nails are mostly used for foundation, beams, ceiling and roofing. The roofing and foundation stages consume the most nails. Concrete nails are used for the foundation in places where the stones are hard, otherwise normal nails are preferred because they are cheaper, and in situations where the stones are soft (for instance Ndarugo stones) there is no need to purchase the concrete nails. Roofing nails are used for the roof.

Head of construction or foremen make the purchasing decisions. In almost all cases the contractors buy nails from retail shops conveniently located within a radius of about 200 meters of their construction. This is because of the bulk and heavy nature of nails.

Price and transportation were the main factors that consumers considered when deciding where to buy the nails room:

Brand Consideration



Observations

A large percentage of consumers don't care about the brand of nails that they are purchasing. They request nails mostly by purpose. Still a few are particular about brands.

What It Mean For A New Wholesaler

On the face of it pays for a wholesaler to start with recognized brands. However if you consider other factors such as prices and transport it's possible to push a new brand to the market.

It also means that if brand is not as important distribution becomes very crucial. If most of the consumers walk to a hardware shop and simply ask for a nails then it means availabilities what drives sales.

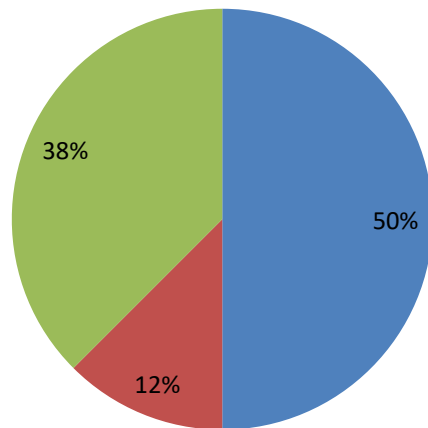
On the other hand where brand is not as important retailers will balance between the price and perceived quality of the nail. Hence they will stock nails from companies that offer them the most profit and also nails that consumers feel are of high quality.

Retailer Choice

What makes a consumer buy nails from one retailer as opposed to the other if say both are conveniently located?

Retailer Choice

■ Price ■ Transportation ■ Convenience



Observations

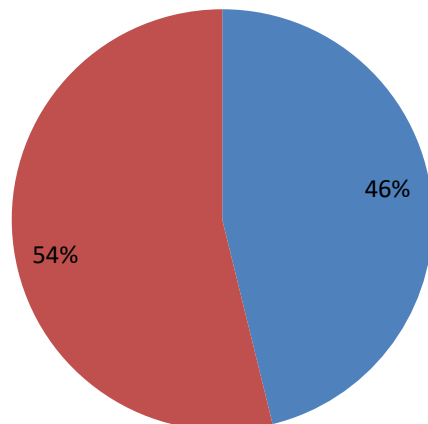
Price is the major consideration when making purchase. Transport is also a major factor when purchasing in bulk. This means what makes one brand of nails sell over the other is first price then availability in the most conveniently located shop and ease of getting the nails from the shop to the site. Brand is not as important.

This also implies distribution and pricing are the crucial factors in the nail business. Lack of brand loyalty also means that the barriers to entry are lower for a new wholesaler. Indeed most consumers didn't know the company that manufactured the nails that they were using, and they didn't really mind.

Consumer Manufacturer Knowledge

Do you know which company makes the nails?

■ Yes ■ No



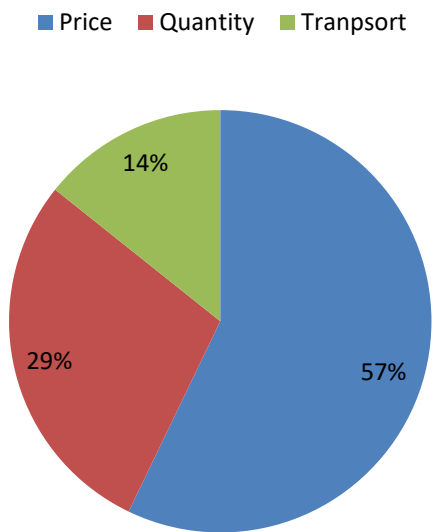
For those who were aware what company manufactures the nails room the sample quoted only Tarmal, Tuffsteel and Devki.

When asked what would make them prefer one company over the other price was the most important consideration. From the sample quality never came up.

Consumer Company Preference

In the case that the consumer knows who the manufacturer is what would make them pick one company over the other?

Why Would You Prefer One Company Over The Other?



Consumers didn’t notice any difference in term of quality between the different companies. Again this means price and distribution are the most important sales drivers. On the hand it indicates there exists opportunity in branding and promotional activities to win market share.

Marketing plans are often controlled by the manufacturer rather than the distributor. Still the distributor can come up with promotional schemes which entice retailers to buy nails from him. In the long run and in partnership with the manufacturer they could push basic branding activities like material that announces quality, quantity or gives tips on nail use.

Of note though is despite the contractors purchasing an average of 150kgs few bought directly from wholesalers. There are no particular restrictions to buying from wholesalers and indeed some wholesalers admitted to selling directly to contractors. Buying directly room wholesalers would mean some significant cost savings on the part of the contractors.

However these savings are considered also in terms of transport costs, time, relationships, perception about terms and conditions and the believe by some wholesalers that they need to keep the retailers in their area alive. Thus the reason if they sell in wholesale directly to a contractor then they will be undercutting the retailer, whereas the contractor will go after the building is finished the retailer will remain. Hence it does not make sense to pamper the contractor at the expense of the retailer. For this reason some wholesalers will offer a contractor just slightly lower prices compared to those at the retailers. The exception is where the contractor is purchasing real huge quantities.

A new wholesaler should keep in this mind; the balance between driving his own sales and helping the retailers he is serving remain in business. Where the contractors are huge and difficult to satisfy their needs through retailers then he can sell directly. This is also the case where contractors are seeking credit, which the retailers are not able to offer.

Present trends in the nails market have little to do with the business side of it but rather concentrated on the functionality of the nails. Thus we have new types, shapes, and thickness of nails. There are no new distribution, marketing or sales models in the market. Systems that have worked before are the same that are being used. This is a market which is not highly differentiated in terms of product and brand.

Wholesalers

Let us look at wholesalers; how they become wholesalers, relate with manufacturers, consumers and how they remain in the market.

Generally there are two types of wholesalers:

- a) **Tier One Wholesaler** – These are wholesalers who buy nails directly from the manufacturers. They could be thought of as distributors of sorts.
- b) **Tier Two Wholesalers** – These are the wholesalers who buy nails from the tier one wholesalers rather than directly from the manufacturers. Relatively these are smaller in size. Tier two wholesalers enjoy relatively lower margins but compensate for it with better terms and less bureaucracy.

A wholesaler's choice of manufacturer is based on the terms and conditions that the manufacturer is offering. Terms here include not just price but minimum quantities, credit periods and any other support.

Wholesalers mainly rely on walk in customers, repeat customers and economies of location to win customers. Rarely are they proactive in finding new customers. They don't have any proper distribution methods.

Wholesaler Case Study

To get a better understanding let us look at two wholesalers who are representative of tier one and tier two.

Mount Kenya hardware

Location:

Gikomba Area, just past Kombo Munyiri Road

No of years in Business

Over 15 years. Presently this is one of the best known retail and wholesale hardware shops in Nairobi.

Set Up

They sell all kinds of hardware items. They import some of their products like tools and tiles. Otherwise they source from local manufacturers and distributors.

Types of Nails

They stock all the major types of nails: Concrete, roofing, ordinary and twisted nails.

Nail Suppliers

They buy their nails from Kifarua Enterprises and Tarmal Steel. Initially they had experimented with different companies but settled on these two to be the major suppliers because of favourable terms. Particularly the discounts and at times credit terms. Otherwise they don't see any major differences in the quality of the nails between the various manufacturers.

Fastest Moving Nails

Looking at sales data from the last two months roofing nails were the fastest moving. Otherwise the ‘ordinary’ nails sell fastest. Their major customers are retail shops from all over the country but also contractors who buy directly from them at a retail price.

How They Became Wholesalers

Mount Kenya started as a small hardware buying from other wholesalers. Then as their sales volumes increased they decided it would make more sense to buy directly from manufacturers.

Initially their aim was to enjoy the bigger discounts offered by manufactures. But looking at the lower price from manufacturers they decided to sell to other retailers. And that way they became wholesalers.

How Do They Get The Nails?

They can either get the nails from the factories or the manufacturer delivers to their premises. However they prefer to go pick the nails themselves. This is because they are sure they will be no delays. At times manufacturers are bureaucratic in allocating transport which and this could result in delays. When the manufacturer is efficient they would prefer if the company delivered.

Terms of Trade

Cash and Credit. The manufactures prefer cash but at times due to the normal challenges of business Mount Kenya will offer to buy on credit. Credit period is usually between 14 days and 30 days. Their duration in the hardware business and trade volumes has enabled them to develop good relationships with suppliers.

Major Customer

Retailers, contractors

How do they do the actual distribution?

Often the customers come to purchase nails from their shop. Some have their own means of transport while others don’t have. And often because the retailers don’t just purchase one item if the quantities are significant then they will offer free transport within reasonable distance.

Which area do they cover?

Nairobi but they get customers from all over the country.

When dealing with retailers what are the terms?

Cash on purchase and only credit to their known customers.

Case Study Two

Nasib Paints & Hardware

Location – Kombo Munyiri Road.

No. of years in business

They have been in business for close to 7 years.

Set Up

They are a general hardware shop selling other items like paints, tiles, toilets, sinks, septic tubes and all hardware products. Nails are part of their offering.

Types of Nails

Concrete, roofing, ordinary and twisted nails

Nail Supplier

Mount Kenya hardware.

The choice of Mount Kenya is because of the terms and proximity. Whereas they could be to source directly from manufacturers they prefer to source from Mount Kenya which is a short distance away proximity because of terms such as credit, transport and generally friendly terms. With Mount Kenya there is less bureaucracy and it's a more walk in walk out affair.

Proximity also means they incur low transport costs. Although they would enjoy higher margins if they purchased directly from the manufacturers, the benefits of purchasing from Mount Kenya far outweigh those of getting supplies from manufacturers, at least for now.

Fastest Moving Nails

Ordinary nails because they serve many purposes.

How They Became Wholesalers

They started as retailers but since they are in an area best known for wholesales they started offering some items I wholesale. For the nails they started in retail buying in wholesale from Mount Kenya. But because retailers kept asking whether they sell items in wholesale they negotiated bigger discounts and better prices with Mount Kenya, and that way they became wholesalers.

How They Get The Nails

They can either pick directly from Mount Kenya or the latter delivers to their premises. Since they are nearby they don't mind using either of the methods.

Terms of Trade

They pay in cash or credit. When their cash flow is good they pay in cash. But their present working relationship with Mount Kenya allows them to enjoy credit periods of up to 60 days.

Major Customers

Retail shops from areas around Nairobi, Machakos, and the Mount Kenya region. They also sell to contractors buying in bulk. Other customers are individuals. They also supply to many carpenters in the Gikomba area.

Distribution

They wait for walk in customers and do not actively market their shop. They have also established some repeat customers. Sometimes, and more so for repeat customers buying in bulk, they will deliver.

Retailer Terms

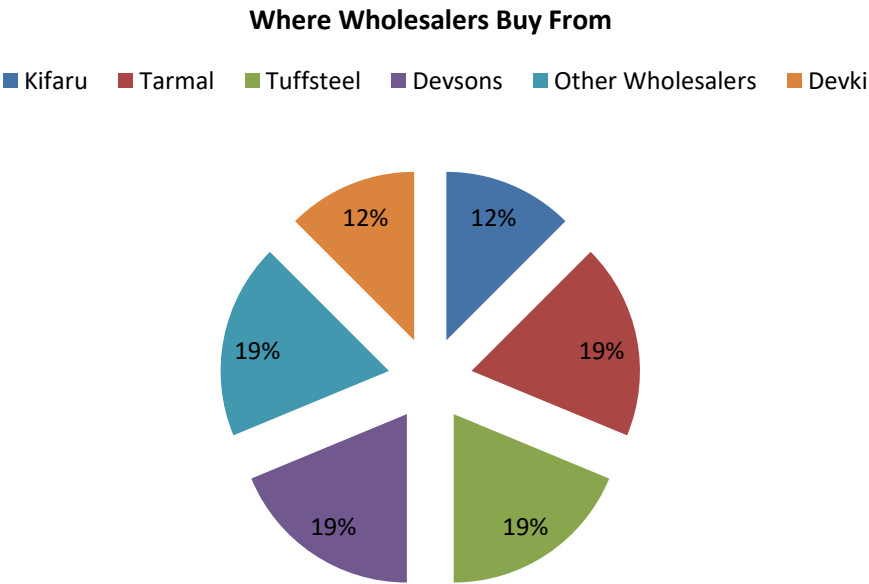
Cash on purchase. This they say is because they are not aware of the physical locations of the retailers. And even when they are aware of their location they consider retailers to be a high risk.

Challenges in the nails business

Increased competition. Wholesalers are popping up everywhere.

Source of Wholesaler Nails

None of the wholesalers specializes in one manufacturer, rather they tend to have said two or so supplying them with nails.



Observations

Although some nail manufacturers are more popular than others or are more recognized brands none can be said to fully dominate the market. Hence you find even mid size manufacturers and importers having a significant share of the market.

Important too is that none of the wholesalers mentioned one company as the source of all their nails, each had at least two suppliers.

There is also a category of wholesalers who purchase from even bigger wholesalers rather than manufacturers themselves. These kind of wholesalers enjoy relatively low margins but compensate for that with lower barriers to becoming wholesalers and volumes.

Terms and conditions were the main reasons that wholesalers settled on a particular manufacturer. Other reasons given were proximity. Terms and conditions in this case meant price, minimum purchase quantities and credit period.

What It Means For New Wholesalers

A wholesaler choice of manufacturer is determined by the terms offered by the supplier and to some extent the popularity of the brand. Still the brand plays a relatively smaller role. Take for instance that a major wholesaler such as Mt. Kenya which buys from Kifaru Enterprises a relatively smaller manufacturer and importer.

If the manufacturer offers a wholesaler poor terms it will be difficult for the latter to offer a retailer better terms. This will put you at a disadvantage when compared to the competition. To have an edge a wholesaler should seek the most competitive terms from the different manufacturers and importers. Indeed the initial consideration should be in the terms, after consider factors like proximity and brand strength.

Wholesaler Set Ups

All the wholesalers selling nails are set up as all rounded hardware shops, selling almost everything a builder would want. This is also the kind of set up that retailers use. There are no specialist nail wholesalers or retailers. Partially this is because the wholesalers (and even retailers) started as general hardware selling everything, then they became wholesalers dealing in nails and other construction items.

Hence it becomes difficult for them to spin out and specialize in nails only. To them that would be leaving money on the table considering that their customers (nails or otherwise) will want to buy something extra. The other reason is the margins in the nails business are relatively low. Specializing in nails would mean that they would require high volumes.

The question then is **there room for a wholesaler who specializes in nails only?** Would he be able to win retailers who shop from major retailers?

From the retailer interviews it's clear that as much as a retailer will go buy stock from a general hardware it's not necessarily that he buys everything from one wholesaler. So he might buy tiles from wholesaler A, cement from wholesaler B and nails from wholesaler C.

This choice is made on the basis of the terms that each wholesaler offers for the particular item, the prices and even the location. In larger hardware markets like Gikomba or Githurai there are economies of location which allow the retailers to purchase a variety of items from direct shops located within the same area.

A wholesaler specializing will have to reinvent the business model a little bit. He should zero in on the main challenges affecting retailers with regard to nails. He should also consider the factors that influence choice of a retailer of wholesaler.

One of the most common challenges is transport from the wholesaler to the retail shop. Choice of a wholesaler is influenced by terms and conditions, with price being an especially important consideration. Proximity is also an important factor considering the bulky and heavy nature of nails. And with a specialist shop the expectation among retailers will be that the variety will be as wide as possible and prices as friendly when compared to the general wholesalers. We will look more into this.

Wholesaler Delivery

All the wholesalers said they either pick the nails themselves from the manufacturer or have the nails delivered to them. Ideally they would like the nails delivered to them. But just like we mentioned inefficiencies among the manufacturers make it preferable at times for the wholesaler to go pick the nails themselves. This ensures there is no delay. Some manufacturers too will not offer transport services unless the quantities involved are of a certain amount, a quantity a wholesaler might not always purchase.

What It Means For A New Wholesaler

Whether a manufacturer agrees to deliver or not, as a new wholesaler you should plan for a means of transport to pick the nails and deliver to your premises or retail shops. You cannot 100% rely on the manufacturer methods.

Major Customers

All the wholesalers sampled sell to both retailers and end users. Often if they identify a shopper as a retailer they will offer a lower price than they would offer an end user. They consider that the retailer has to enjoy some margins and that he is in it for the long run and they have to keep enticing them to come.

Where a contractor is buying in bulk they will also offer discounts. None of the wholesalers including the larger ones like Mount Kenya sell to retailers only. Often consumers are not able to identify whether a hardware shop is a wholesale or retail only. Consumers are attracted by well stocked hardware shops. And since most wholesalers are well stocked they attract end user consumers who are not even aware whether a shop is a wholesaler or not. And rather than turn them away the wholesalers work with price differentiation. That said the bigger consumers such as contractors know who are the wholesalers and will try negotiating the best prices possible.

A new well stocked wholesaler specializing in nails will definitely attract the attention of both retailers and consumers. Still this being a relatively new business concept it will be important for the wholesaler to proactively market to retailers lest they think that the shop is serving only retailers.

Wholesaler Distribution & Market Entry Ideas

Like noted traditional wholesalers largely rely on economies of scale walk in and repeat customers. They rarely go out there looking for customers and aggressively so. Unlike say fast moving consumer goods wholesalers will rarely go out in the field selling nails to retailers. They largely depend on their reputation as wholesalers within the locality to win the retailers. This is changing as new importers and manufacturers join the nail business. Because of their relatively small scale and weak foothold in the market they are more aggressive.

There are a few cases, indeed from our sample only in one, where a ‘traditional’ wholesaler is trying to proactively win customers. And this is through a salesperson going round distributing a price list. Then again this is not consistently so. There were other instances where an independent salesperson approaches a wholesaler and says “I will go out there and get you customers then you pay me on commission basis”.

Lack of proactive and aggressive sales is especially interesting considering that manufacturers rarely zone wholesalers especially in Nairobi. Also in a case where there are different manufacturers some more established in some areas there are no efforts to win over retailers. A wholesaler say located in Gikomba market or Githurai will get retailers from all over the city and beyond.

One of the challenges of proactive distribution is logistics. Considering the bulk nature of nails, the relatively lower margins and the quantities that retailers buy at a go then how do you profitably distribute to retailers scattered all over? How do you profitably deliver 50kg to a retailer in Kinoo and 70kg to another in Kahawa Sukari? Keeping in mind the cost of transport, labour and time.

Rather than solve this logistic problem most wholesalers prefer to wait for retailers to walk in.

Some of the ideas that could help solve this problem are:

- First focusing on trying to win a particular region. For instance a wholesaler could work to win retailer in Kawangware, Kangemi, Uthiru, Kabete, Kinoo, Wanyee and the surrounding areas. This way at any one time he will be getting a total critical quantity to deliver and efficiently so since most of the retailers are in the same locality.
- A wholesaler could do scheduled sales rounds. Such that on Monday he could have an area such as the one above, on Tuesday areas such as Kitengela and so forth. Retailers are able to monitor stock and make orders before the visits.
- Distribution points – In areas with a significant number of retailers and lots of construction going on a wholesaler could establish a distribution point. This could be a store front or a partnership with a retailer from where other retailers can be getting the nails

- Efficient methods of transportation. Despite the bulk and heavy nature of nails a wholesaler can invest in efficient methods of transport such as three wheelers, motorcycles for a small range and order or efficient smaller vehicles. This will keep the costs vs. profits manageable.
- Salespeople – If the prices and terms are favourable then it would pay to invest in salespeople to be paid on commission basis.

Although the above research is focused on the wholesale and retail side of the business; there are some key take aways that could help in penetrating the market:

Low brand loyalty means distribution is key.

Retailers and wholesalers will favour the manufacturer who offers the best deal in price and terms like delivery, quantities and such.

Whereas traditionally manufacturers didn't sell directly to retailers and wholesalers the coming into the market of small and mid scale manufacturers and importers has increased competition. The new comers are more aggressive and it's becoming the norm to sell to retailers and large consumers directly.

Price is the key factor that consumers look for. Other important considerations are convenience.

You can get into the market by selling directly to retailers, wholesalers or contractors. Selling directly to retailers and contractors will give you higher margins. This is a market which is price sensitive so prices will be the first consideration then quality.

Licenses

The licenses you require will depend on the kind of setting that you pick for your business. You can either decide to operate formally in the mainstream or run semi formally where you are a little below the radar of authorities.

In the first case you set up in a proper business way, locate in a visible and accessible place. In the second case it's like you don't want to come out in the open, thus you operate from home or an area and premises not easily visible. The point of the informal operation is to avoid incurring license and inspection costs until the business stands on its own. On the other hand the formal set up means that you want to go mainstream from the word go. You have the capital to pay any regulatory fees, are not afraid of scrutiny and perhaps think the licensing from the authorities will validate your business.

Well ideally the formal operation should be the way to go. However the realities of business at times make the informal the more favourable set up. The informal will come in handy when low on set up and working capital. For instance you can set up at your home say in the rural area and still supply in the surrounding towns. And when the business is stable shift to the town. And then you can get the environmental licenses, standards certification, advertise your business and even invite the tax man.

On the other hand the formal set up jump starts your business in a way. You are not afraid of darkness. You can state the location of your business, advertise it in the open, flout the standards mark, get into equally formal selling points like supermarkets, recruit and maintain professionals among other advantages.

Your resources, circumstances, target market and acumen will help determine how you will set up. The informal should just be a starting strategy as you stabilize. If you plan to grow your business in the long term you have to go fully mainstream. You can't grow in darkness.

The licenses we list below are for a formal operation. If operating informally pick what applies to you.

License	Details	Issuing Authority	Cost
Single User Business Permit	This is issued by the county government to anyone doing business within the county. The cost depends on the size of the building, location and nature of the business.	County Government	30,000
Fire Permit	This is issued to every business within the county to ensure that they are prepared for in case fire. The license will depend on the nature of the business and size of the premises.	County Government	Budget at least Kshs. 8,000 for this license.
National Environment Management Authority (NEMA) Certificate	This is to ensure the business is not harming the environment and is operating within the required environment laws. Among the factors Nema considers are waste disposal methods, noise levels, what the community feels and the risk levels involved and how to mitigate them. To help determine this you will be required to conduct Environmental Impact Assessment	National Environment Management Authority (NEMA) Certificate	NEMA does not charge for the licenses but the EIA expert will charge a fee. The fee depends on the consultant but averages Kshs.50, 000.
Kenya Bureau of Standard (KEBS) certification.	KEBS assess your operation and productions to ascertain they meet set standards. And if you do they issue you with a certification and allow you to use the mark of quality to show that your products meet standards with regards to nails. You can flout this certification when marketing. It also comes in handy when getting into more formal distributorship like supermarkets.	Kenya Bureau of Standards	The fee depends on your location and size of your operations. Budget at least Kshs. 40,000 for this for the whole process. The process could be in stages from the first certification to validation.
Company Registration	This is not a license per se but if you want to grow your business it will help if you register your company with the registrar of companies at the attorney general chambers. The whole process will cost you about Kshs.30, 000 if using the services of a lawyer	Registrar of Companies, at the Attorney General Chambers	Budget at least Kshs. 25,000 for this.

	or around Kshs. 20,000 if doing it yourself.		
Outdoor Advertising License	If you will be having a signboard or other form of outdoor you will need to pay a fee to the county government. Same if you are having a branded vehicle. The license will depend on the size of the signboard and nature of outdoor advertisement.	County Government	Budget at least Kshs. 15000 for this license.

You don't need all these licenses to get started. The very basic are the county government licenses. It also helps to register your business. Consider NEMA licenses especially if you are operating in a visible open center. KEBS can come later after you have started operations.

Capital

Item	Details	Total (Kshs.)
Licenses		
EIA Consultancy	1	60,000
Fire Inspectorate License	1	8,000
Outdoor Advertising		15,000
Company Registration	1	30,000
Weights and Measures Certification	1	10,000
Single User Business Permit	1	30,000
KEBS Certification		40,000
Sub Total		193,000
Equipment		
Nail Making Machine	Equipment 2 – 4 inches nails	520,000
Nail Polishing Machine		200,000
Sharpening Tool		90,000
Equipment Accessories & Spare Parts		120,000
Trolleys	2	25,000
Fire Extinguisher	2	14,000
Other ' Miscellaneous' Equipment	All	100,000
Equipment Conveyance Costs	All	300,000
Sub Total		1369000
Premises and Operations		
6 Months + Deposit	20,000 per month	140,000
Renovation & Remodeling	All	80,000

Furniture	1	10,000
Raw Materials Initial Stock 5 tonnes	5000kgs @ 97per kg	485 ,000
Packaging Material Initial	Bags, Design, Printing	20,000
Sub Total		735,000
Working Capital		
Salary	3 Months - Monthly Payroll @ Kshs.,000	306,000
Electricity	3 months @ Kshs.15,000 per month	45,000
Marketing and Distribution	3 months @ Kshs.90,000	120,000
Miscellaneous	All	60,000
Sub Total		531000
Grand Total (Adding all the above sub totals)		2,828,000

Notes on Capital

This is just a guide based on some scenarios. The costs could be lower or higher depending on your set up. For instance depending on the price at which you buy the equipment, the kind of equipment you start with, the licenses you acquire, rent you pay, working capital and even salaries you pay.

Like we noted it's not a must you acquire all the licenses when starting. For example KEBS certification can be acquired later after you have started operations.

Although it's especially important to have working capital to run for at least 3 months; it could be for a shorter period.

Capital required could be higher if you decide to acquire a vehicle for delivery, to produce a wider variety of nails and have a wire drawing machine.

