

Copperia: A Passage to India

Introduction

With an economy that has grown for over 9 % for most of the last few years, a rapidly growing middle and upper class who are ready to spend their disposable income on discretionary products and services that ensure a better lifestyle for them, India is definitely one of the places to be for any company wishing to succeed in the 21st century. This holds true not just for the B2C markets, but B2B markets as well as the country's rapid industrialisation has created a need for a variety of different products in such markets. The competition is intense, with multinational companies, Indian brands and unbranded players vying for a slice of the same pie. Most such markets are very price-sensitive and companies must tread the fine line between ensuring their prices are competitive and not compromising too much on their margins.

Copperia, the subject of this case, is one such company. The company is the world's largest producer of bimetallic conductors and has long enjoyed a commanding position in this category in markets such as the United States and China. The original American company was taken over by a small Chinese company in 2007 in order to expand the latter's global reach. One of the key components of any such global strategy would be the firm's entry into India. But such a venture would entail considerable risk and involve commitment of a lot of capital to set up manufacturing facilities and distribution networks. The company must first figure out whether the demand for their products in India will grow sufficiently in the next few years to justify such an investment. The products are relatively unknown in India, and

many people familiar with the market say that they cannot be priced competitively. The company cannot ignore such warnings, but neither can it afford to pass up on the Indian market.

Company Overview

In 1915, when a group of five engineers namely X. E. Bramer, Yacob Roth, X. R. S. Kaplan, Loimon Loeb and Trilliam Smith, Sr.) in Rankin, Pennsylvania first created a permanent metallurgical bond between copper and steel, they probably had little idea of how valuable their invention would become. This bond originally was made under a molten weld process. When these pioneers discovered the power of two metals over one, they paved the way for a strong carbon steel and light weight aluminium to offer the electrical conductivity efficiency of copper in a wire that is stronger, lighter and less expensive than a solid carbon wire.

Their product, a Copper clad steel (CCS) wire, was patented under the brand name **Copperia** and it was soon adopted as an alternative to solid copper wire in many conductor applications, particularly those where copper would be too ductile or would not offer the breaking strength of steel. The original use, however, was for watch springs or the balance spring which controlled the speed at which the wheels of the timepiece turn, and thus the rate of movement of the hands of the watch. These springs required corrosion resistant and durable material. Indeed, the copper cladding prevented corrosion.

Originally, the company was founded as the **CCS Company**, but in 1924, changed its name to the **Cuprum Steel Company** (CSC). In 1927, the company installed itself in a former axe factory in Glassport, Pennsylvania. CSC went public for the first time in 1929,

shortly before the onset of the Great Depression, but its shares were eventually withdrawn much in tune with the global crisis.

The federal govt. of US was the company's major client throughout the Depression and World War II, and its patronage is largely responsible for keeping the company solvent in that time of severe economic downturn. The company was listed on the New York Curb Exchange in 1937 and on the NYSE in 1940. It would continue to trade on the NYSE until 1999.

In 1939, CSC opened its second factory in Ohio, manufacturing steel billets, which are actually the freshly made steel, that is still in the form of a metal bar or rectangle. The unformed billets can be used in striking currency such as coins and as reserves, similar to gold bars. After the war, the resurgence of the American economy helped CSC thrive. The company's management offices were relocated to downtown Pittsburgh soon after the war. Though the company did pay attention to organic growth that is by ensuring a considerable investment in existing divisions, acquisition became a focus area for achieving growth. In 1951, the company acquired the Flexis Wire Co. of New York. The next year, it entered into the steel tube manufacturing business with the acquisition of OSTC of Ohio. In 1957, the company merged with stainless steel finisher Super Steel Company, but sold off the division after five years of poor financial performance.

In conjunction with Balta Memora Institute, the company developed a second bimetallic product line, an Aluminium covered steel wire that it branded as **Almastela** in 1959. The new product was successful, and the company engaged in its first international joint venture in 1966, with the creation of the Japan Almastela Co. of Numazu, Japan. CSC had a 45% stake in the newly formed company with the remainder owned by Japanese wire and cable manufacturer Fujuhira Ltd.

In 1972, CSC went a step ahead in its backward integration to acquire the Chicago-based Regal Tube division of Lara Seigler. Once truly diversified, the company changed its name in 1973 to **Copperia Ltd.** The company expanded into the primary and secondary metallurgical products market, offering a diversified product range that included steel pipe and tube; bimetallic wire, strand and strip; steel bars and plates; solder and skiving, and employed thousands at multiple facilities in the USA, Canada, Japan and Britain. The bimetallic process moved beyond simple copper and steel, and eventually also combined metals and alloys such as Aluminum, tin, brass, gold, nickel and silver.

In 1974, the company's third foray into bimetallics was realized when the company opened a Copper Clad Aluminium wire manufacturing plant in Tennessee. That division, **Copperia Southern**, eventually was to become the focus of the company's bimetallic wire operation in future.

In 1975, Metale S.A., a French holding company owned by the Rothchild family, acquired controlling interest of Copperia. MSA's acquisition of Copperia represented the first hostile takeover of an American company by a foreign entity however the former vowed not to interfere with the theretofore successful company's direction.

In 1978, the company expanded its bimetallic wire production to Brazil in a joint venture with Berico International Corp. Copperia would buy the entire operation from its partner just three years later. A new division and revenue stream were created in 1980 with the advent of Copperia Energy, which bought stakes in Houston-based Grardian Oil Company. The ostensible purpose was to drill for natural gas to ensure a steady supply for its factories. That same year, the company acquired American Seamless Tubing of Maryland.

The severe steel crisis of the late 1970s and early 1980s hit Copperia hard. The venerable Glassport facility was closed entirely in 1983. In 1986, another fine wire division was shut

down. Both operations were relocated to Copperia Southern largely due to cheaper labor costs in the South.

In a bold move to shed the company of its crippled steel manufacturing operations and concentrate on fabricated steel products, MSA spun off Copperia's Ohio operation into a separate publicly traded company in 1986. That company, **CCSC Industries**, would continue to operate as the Copperia Company, causing confusion. For some time, two "Copperias" existed. However, the gamble paid off. Copperia returned to profitability just one year after the spin-off. The newly formed company, CCSC, never turned a profit in its entire history, and went bankrupt in 1993. The assets were acquired in a bidding war by Ohio-based Hematamlin Holdings in 1995, and they discontinued use of the Copperia name.

The late 1980s saw a much healthier original Copperia Corporation divest of its operations in Brazil and sell its tubing operation in Maryland. Expansion was again on the horizon, with the 1988 announcement of a \$90 million upgrade and the construction of another tube plant in Alabama. The company also bought NSC's Copperply division, giving it control of a competing brand in bimetallic wire.

In 1989, Copperia and Fujuhira Ltd announced a second joint venture together, the United States Almastela Company, to be located in South Carolina. In 1992, the Copperia Corporation divested itself of its JV with Fujuhira Ltd selling its shares and the rights to the brand to Fujuhira Ltd. Further growth by acquisition continued in the company's tube sector in the 1990s as it acquired another Ohio-based Mriami Industries in 1993 and two Canadian steel tube companies, Super Tube Canada and Scono Steel Tube in 1997. In 1998, the company announced the building of a stainless steel tube plant in Kentucky.

The bimetallic wire division also prospered, with a drastic increase in demand of bimetallic wires for the cellular telephony boom. In 1995, the company bought Metallurgion Engineered

Materials Corporation of Rhode Island. There was a major expansion of the Tennessee facility in 1997, and it purchased Scrayton Fine Wires of Telford, England in 1998.

In 1999, Ohio-based TLV Steel acquired Copperia Corporation from MSA for \$650 million, and the subsidiary became known as **TLV Copperia**. At that time, the company was the largest producer of structural steel tubing in North America with 23 plants and employing 3,500 people. But TLV was drowning in debt, and at the end of 2000, it, along with 48 subsidiaries, including Copperia, filed for bankruptcy in US. Various subsidiaries were sold off but because the TLV Copperia division maintained profitable operations throughout TLV's bankruptcy proceeding, it was able to secure separate financing. In late 2003, TLV Copperia emerged from bankruptcy.

Frodasco (a division of reputed steel and mining company) acquired most of the TLV Copperia's assets, including 50% of the bimetallic wire division, which would in turn was sold to a private investor in 2006 and operated as **Copperia Bimetallics**. It was the only division of the previous conglomerate to continue to operate under the Copperia name, and kept the established brand as a registered trademark for its copper-clad steel conductors.

About that same time in China, a small copper-clad Aluminum facility started up to respond to the overwhelming need for wire products in China's explosive infrastructure boom in telecommunications and public utilities. That company, Xishi International, began operations in 2001 under the leadership of Fun Li, and experienced phenomenal growth. As a small company now, Copperia had struggled for a number of years under the pall of its previous bankruptcy. In August 2007, however, the owner sold the company for \$22.5 million USD to **Xishi International**. Xishi International's need for additional manufacturing capacity led it to acquire Copperia in 2007, forming the world's largest bimetallic wire producer.

The acquisition was significant because it represents the first major investment in the state of Tennessee for a mainland Chinese company. Xishi International had quickly grown to be the preeminent supplier of CCA wire in China, but was virtually unknown outside the P.R. China. For some time, the company had been seeking to broaden its market footprint globally. By acquiring Copperia, it not only opened up a worldwide distribution channel, it also gained product diversification by the presence of CCS wire in its new subsidiary's line-up.

Three months later, Xishi International was listed on the Nasdaq, and changed its name to **Xishi Copperia**, capitalizing on the established brand name in the west. In 2009, the company acquired the Juachuan Electric Cable Co.

Company Financials

Parameters	Numbers (in US \$ millions)
Revenue (2010)	265
Operating Income (2010)	58
Net Income (2010)	1.9
Total Assets (2010)	370.3
Total Equity (2010)	344.4

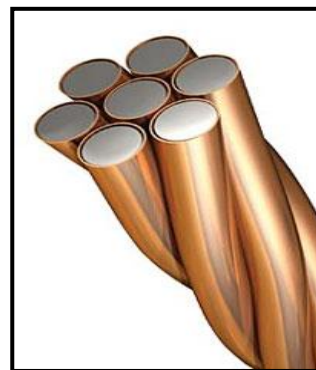
Product Overview

Copperia's major products are bimetallic conductors, including bimetallic wire, cable and busbars. The products generally consist of two metals – copper and either aluminium or steel. The core of the cable is made of the lower conductivity metals (aluminium/steel). The outer cladding is that of copper. The principle behind the bimetallic wire is that in many conductivity applications, the core does not conduct electricity due to a phenomenon known as the 'skin effect.' So it does not make sense to use an expensive metal like copper (known for its high conductivity) in the core. Instead the copper is used only in the cladding where the conduction will take place. This offer large advantages in cost as aluminium and steel are much cheaper than copper.

Fig 1: Products of Copperia



Copper Clad Steel



Copper Clad Aluminium

The applications of these two classes of products are immense. It can be used in winding wire used to make the coils of transformers and motors. It can also be used to make busbars for switchgears and other wiring applications. In addition, it is rapidly being adopted for transmission of cable television signals (which are typically transmitted at high frequencies that maximize the skin effect). The soaring prices of copper in recent years have meant that aluminium is being looked at as a replacement for copper for the above applications. However, CCA is superior in performance to aluminium, while being around 10 % cheaper

than copper. While for the same cross-section of wire, the conductivity of CCA is around 2/3 of that of pure copper, the conductivity can be matched for applications that require such conductivity matching by increasing the wire cross-section. The lower density of CCA compared to copper also means that the length of CCA wire drawn from 1 kg of CCA is 2.7 times the length of the copper wire drawn from 1 kg of copper.

Copper Clad Steel (CCS) is a product with slightly different applications. It is used where conductivity matching to copper is not as important as the strength of the cable. The conductivity of CCS is typically around 40 % of that of pure copper. It is used in applications like catenary wire for the Railways. In India, a big problem is theft of the valuable copper wire currently being used for this purpose. Using much cheaper CCS will be a good alternative as people are unlikely to risk their lives to cut and steal this wire. CCS wire can also be used for last mile power distribution.

There are also many bimetallic products in the market which are manufactured by electroplating and coating. Cladding is superior to all of them as the bond between the two metals is the best in a cladding process. The other processes used can lead to air-holes and other defects, leading to quality problems in the finished product. However, the cladding process is expensive, making Copperia's products less competitive in the market than those manufactured by coating and plating.

Organizational Structure

The company has its head office in Beijing since 2010, and five manufacturing facilities namely two in Tennessee, one in UK and the remaining in China. The manufacturing

facilities employ close to 1000 employees not including those employed at Beijing Sales Office.

It manufactures 27,000,000 kgs of CCA per year and 26,226,000 kgs of CCS per year. The company currently has two CEOs – one American and the other Chinese. Apart from this the executive team comprises of a President and an Executive Vice President who is also the CFO for the company. The company is actively involved in selling its products in the Americas and the other European Nations. However as far as the Emerging economies of the Africa and Asia are concerned, the company is striving hard to make its presence felt. The company is riding high on its metal cladding process and the fact that both the American and the Chinese divisions have been leaders in innovation, with many patented processes to their credit.

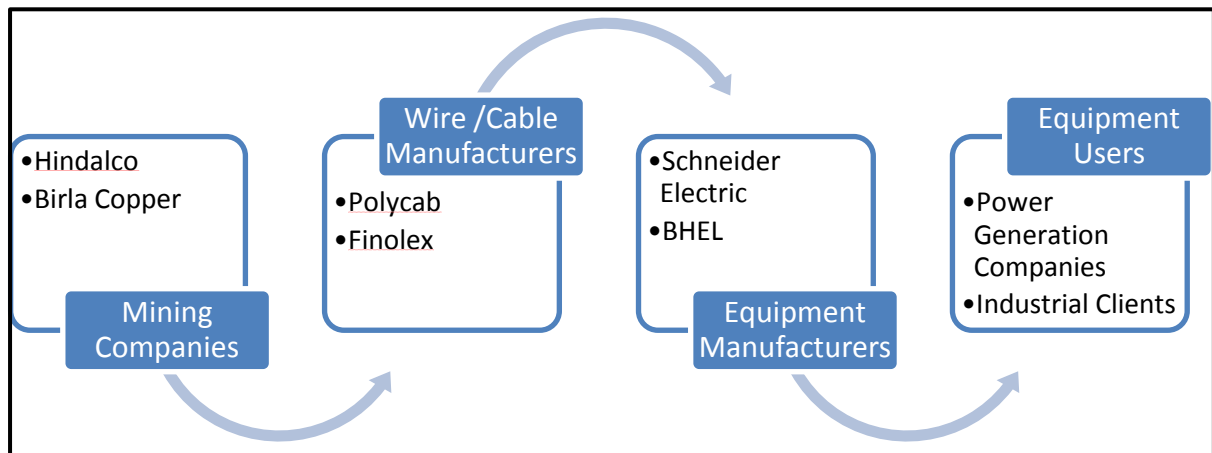
Emerging Scenario

The company has been able to achieve success in the western markets but it has not been able to find a place for itself in the emerging markets especially India. In India, the market for copper strips and wire has two arms: - OEM segment and the retail market. India relies much more on its imports for fulfilling requirements of copper products required for making Wires and strips. Principally, the products for which the copper strips and wires may be used are Winding Wires, Bus Bars, Cables and other conductors.

The OEM segment is one with immense potential for Copperia. The power infrastructure in India is expanding very rapidly and this has led to huge growth in the Wire and Cable industry in the last few years. The total usage of copper by the electrical and communication industries is projected to grow to 553000 tonnes/annum by 2015- 2016. 25 % of this is used

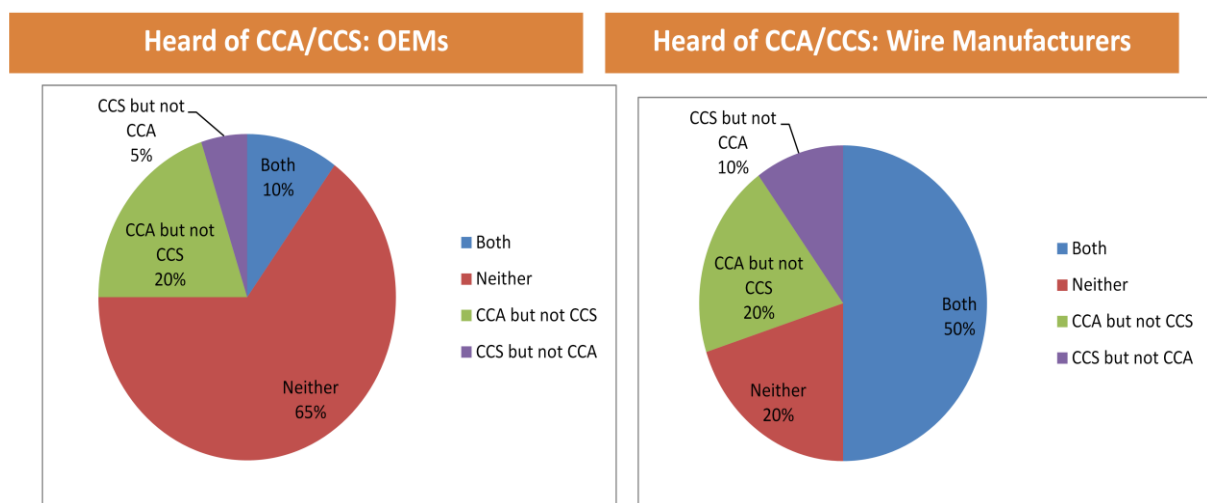
by the Wire and Cable industry. Winding wires for motors and transformers is a large part of this industry.

Fig 2 : Typical Supply Chain for OEM segment



The company would like to focus on the two steps in the middle: the wire and cable manufacturers and the equipment manufacturers. However, the awareness of this product varies at these two levels. While 80 % of wire manufacturers have heard of at least one among CCA and CCS, as many as 65 % of the equipment manufacturers have not heard of either of the two products.

Fig 3 & 4 Awareness Levels of OEMs and Wire manufacturers



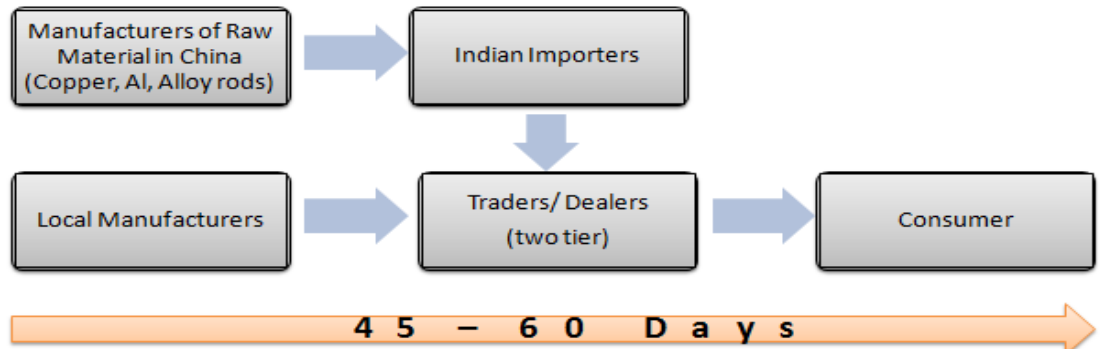
The acceptance of these products may also pose problems for the company. The OEMs are worried about quality and performance issues and the size that would be required to match conductivity with pure copper (an important factor for applications like transformers and motors. The wire manufacturers share the quality and size concerns and are also worried about product life. However, the overriding concern of both categories is whether their customers will accept the product. With the exception of the largest companies, no other company would be willing to take a risk on the product unless their customers asked for it in the first place. Therefore, to get players in the OEM segment to adopt the product, Copperia must first get the end customers to be interested in the product and convinced about its advantages. The company can also approach the R & D teams of large corporate and ask them to evaluate the product.

The problems in the OEM segment are numerous, but the opportunities are also enormous. Firstly, the rising copper prices have squeezed many companies' margins to as low as 5 – 7 %. More and more companies are turning to aluminum as a possible substitute. For instance, 85 % of all busbars in India are made of aluminium. The opportunity here for the company is to demonstrate how CCA is superior to aluminium. Customer education at all levels will be crucial for the company in this segment. Educating the customer on the difference between plated and clad materials is also key to alleviating any fears about quality and performance. In addition, the adoption of the technology by big players in the OEM cycle is expected to create a virtuous cycle and help faster penetration of the technology in the retail segment.

Talking about the Retail Segment, the bimetallics, which form the major part of the company's products, form only 35% of total Copper and allied products. The total market size is approximately 40- 50 containers per month (cpm) where each container contains 19 metric tons of the material.

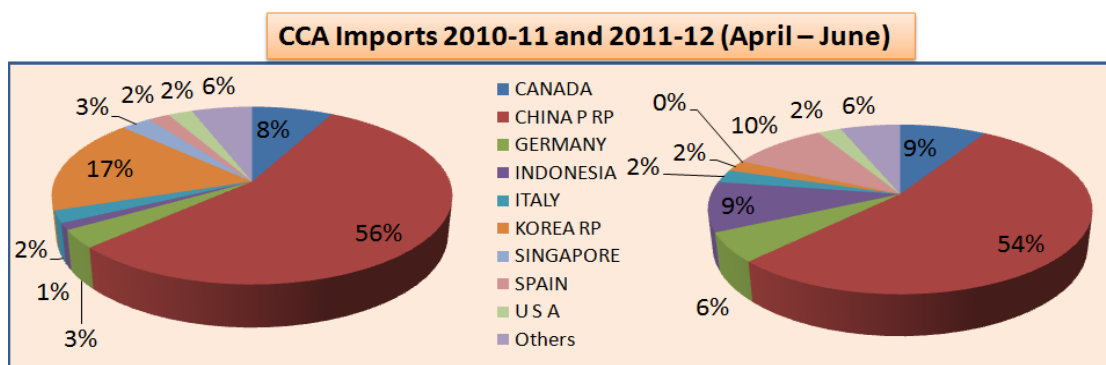
The supply chain for such products, in context of the Retail Market is shown in fig 5.

Fig 5 The Supply Chain of Copper and other related products in Indian context



The total Import (CCAM + CCA) is pegged at 9-11 cpm. Of this, the domestic players supply about 6- 7 cpm. The two main market centers are Delhi and Mumbai where Mumbai market is negligible as compared to Delhi. The Delhi market consists of 4-5 established importers, 50 traders and 1000 SSE consumers (each having a small production capacity). Out of the total market, the clad materials (CCA) that have been manufactured by making use of the process similar to the one used by Copperia form only a small portion i.e. 5% of the market. The bigger chunk of 30% is grabbed by the Copper Clad Aluminium Cheap substitutes which are actually Copper Clad Aluminium Magnesium alloy. The state of imports, country wise, is given in Fig 6.

Fig 6 CCA Imports from various countries, 2010-11 and 2011-12 (Apr- Jun)



The major factor behind prevalence of so many CCA like alloys and materials is that the players in the retail market are not aware about the difference between cladding, plating and polishing as a means of producing bimetallic materials. Therefore Copperia has not been able to position itself as a company offering a better product as it uses cladding- a superior means of ensuring that the bond between the metals is mechanically and chemically homogenous. Therefore, the players in the market are making use of Copper coated alloys and passing it to consumers as a substitute of Copper and Copper clad materials. The chief reason behind this is the price advantage since these coated materials have very less content of copper by volume and more of a cheaper alloy of Aluminium.

The prices of the copper wire per kg based on Super D rod variety (99.9 % purity grade) vary as per the prices of the scrap Copper in London Metal Exchange. As on Feb 10, 2012, the prices of the Copper and the various Products available in the market are shown in fig 3. The figure clearly shows the price advantage that these unorganized players are having by flooding the market with the coated materials and passing it off as a clad variety.

Fig 7 The prices prevalent in the retail market (as on Feb 10th, 2012)

The Cost aspect (INR/Kg)	
Copper Scrap (LME)	= 424
Super D rod	= 481
CCoAM (alloy)	= 330
CCoA	= 320
Chief Competitor's Price	= 275
cash	= 276
credit	= 280
C Clad A(Copperia)	= 460

The perception of the clad materials, amongst the players in the market, is not very encouraging. Market players (Wholesalers, Retailers, and Consumers) feel that these products

(Clad materials) are best suited for applications that run on low power requirements. Since they dissipate a lot of heat, they are less durable in the long run. They lack strength, people say, and are also not approved as per Indian standards. A majority however believes that this whole concept of the clad materials is fraudulent in the sense that if copper is not present in a conductor, it is impossible for the conductor to conduct. They go on to add that this is merely a compromise on quality by some companies who tend to spoil the market by bringing in these lower quality, cheap products.

The players in the retail market however add that these materials will find their way into the market only when the big players like OEMs are convinced of the quality and start using it. Instrumentation cables can be other such avenue where these materials may find some taking. House wiring, bus bars and wires for installation of CCTVs may offer some other opportunities for such products to be used.

When asked in absolute terms about the factors they consider while purchasing the product, the responses of the market players could be represented in fig 4a). Also shown alongside in fig 4b) are the preferred channels of information as per the opinion of the players in the retail market.

Fig 8 a) and b) Favoured attributes of a brand and the preferred channels of gathering information – a view of the market players

Favoured attributes of Brand	Preferred channel of Info.
<ol style="list-style-type: none"> 1. Price 2. Availability 3. Quality 4. Technical Assistance 5. Foreign Associations 	<ol style="list-style-type: none"> 1. WOM 2. Sales rep 3. Technical Consultants 4. Exhibitions 5. Magazines/ Printed media

If the outlook with respect to Copperia's product was not dampening enough, a look at competition's efforts may help one understand the difficulty for Copperia to enter the Indian market. There is one company known as Cupera Innoxia Ltd. (CIL) which is in direct competition with Copperia's products. CIL was registered in 1995 and has a turnover of \$ 200 million annually. It together produces 200 metric tons of CCA and alloy products in a month. It has an established brand which goes by the name "Wiver". As of now it occupies a market share of 40- 50%. The unique thing about the way it operates in the market is that it makes available the quantities depending upon export opportunities. If for an instance, in one particular month, CIL supplies 150 tons in the market then in another month, depending upon the demand in the export market, it may as well slash the supplies to as low as 50 tons.

Since the demand in the market has to be met, smaller unorganized players chip in and then the inflow of cheaper goods with inferior quality results. Though the brand does enjoy the awareness levels amongst the market players but it is associated with low quality. The clad materials that it claims to provide, according to the market, are not actually clad but are manufactured in a way that allows the company to charge higher profits on the name of the products being clad. Also the players in the market feel that the copper content in the products so offered is not what is promised.

Copperia is trying to enter the Indian market for several years now, but the factors mentioned above in the form of market awareness levels; competition and price sensitivity of the market have prevented it from making inroads. It is time, Copperia actively thinks upon the entry strategies so as to gain a foothold in emerging economies like India. One such strategy may be Cooptation with Local players where Copperia uses the network expertise of these local players. Since these players have their connections with producers in China, they can be manipulated to support Copperia's products. Some of these local players command a

premium on the prices of brand Wiver just because their quality has been consistently average if not good and their supplies from China have been regular. They are able to bridge the demand and supply gap which is a result of CIL opting for export opportunities and neglecting the needs of the local market. These players also offer technical expertise to small wire drawing enterprises and allow for both credit and cash based transactions.

Other route may comprise of reaching out to OEMs so that once the bigger players realize the potential of the product, the retail market will ultimately fall in place. Though the tag of an MNC may help Copperia in attracting some players, but eventually for sustenance, a well chalked out marketing plan seems like an only option.