

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

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ABSTRACT: In India, organised jewellery manufacturers have adopted vertical integration as a strategic option to gain end-to-end control of the supply chain, reduce expenses, and gain a competitive edge in the market. This study focuses on how vertical integration integrates with its downstream business partners to lower transaction costs and affect the pricing strategies of Indian jewellery manufacturers and their profitability. The research uses qualitative literature-based approach, using the fundamental theories of Transaction Cost Economics, Vertical Integration Theory, Supply Chain Management Theory and the Resource-Based View to construct a comprehensive analytical framework. The information is compiled from peer-reviewed academic journals, industry reports, government publications, and the annual reports of major jewellery companies such as Titan Company, Kalyan Jewellers, Malabar Gold & Diamonds, PC Jeweller and Senco Gold that are publicly available. The results show that vertical integration has significant advantages in transaction costs reduction because it increases efficiency in procurement, increases the information sharing system, improves quality control, streamlines logistics, and provides coordination along the supply chain. These operational efficiencies offer a better pricing flexibility to the firms as it allows them to offer competitive pricing and premium pricing depending on the brand reputation, product quality and consumer trust. The study also reveals that a vertically integrated company tends to have higher revenue growth and operational performance, but to obtain higher profitability gains requires the presence of complementary factors like size of the organisation, technological capacity, working capital management, brand building and market conditions. It is concluded that vertical integration, to a significant though limited degree, can help to enhance the pricing and profitability performance. This study aggregates the available literature in a single theoretical framework which helps in understanding strategic supply chain management in the jewellery industry of India and also identifies future research opportunity for empirical studies.

INTRODUCTION

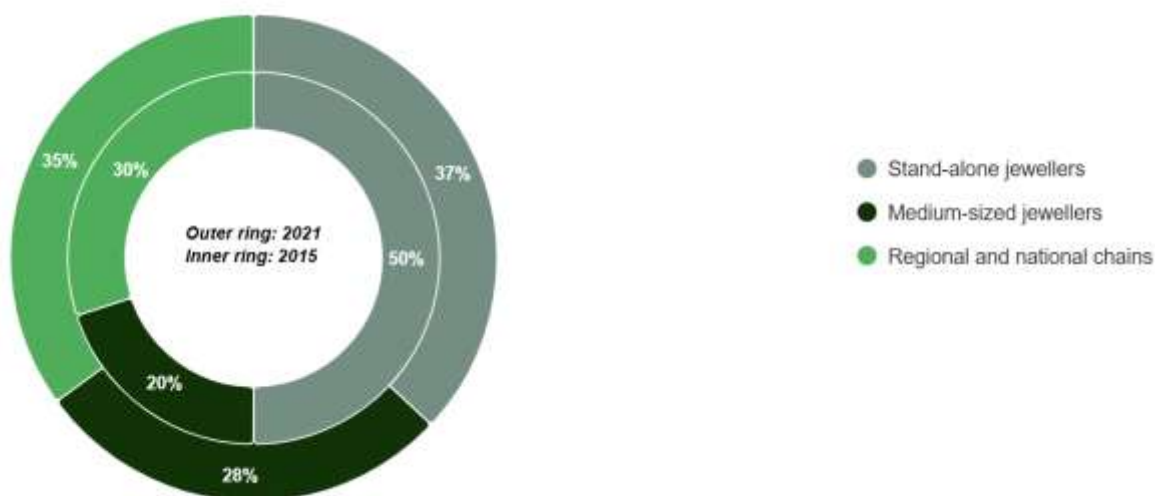
Importance of India's Jewellery Industry

Jewellery business is one of the most important sectors in the manufacturing, export and retail industries of India. The industry is culturally and economically important as it has been around for centuries, with increasing disposable income and ongoing demand from consumers for gold and diamond jewellery. India is one of the highest consumers of gold in the world and it is also one of the major centres for cutting and polishing diamonds. The World Gold Council (2024) has demonstrated that India has always been a key player in gold consumption globally, and the Gem & Jewellery Export Promotion Council (GJEPC) highlights that gem & jewellery is a major contributor to merchandise exports for India. The industry employs millions of people, from mining to refining, manufacturing to wholesaling and retailing to export and contributes to foreign exchange earnings (Gem & Jewellery Export Promotion Council [GJEPC] 2024).

Indian jewellery market is a combination of a fast-growing organised jewellery segment and a substantial traditional unorganised jewellery segment. While organised retailers have carved out a market share by offering branded products, standardised quality, transparent pricing and certified jewellery, the independent jewellers of the country still have a large percentage of the market share, especially in the semi-urban and rural markets (CRISIL Ratings, 2024). Recent regulation has also progressed the move towards organised retail further through compulsory hallmarking by the Bureau of Indian Standards (BIS) which has enhanced consumer confidence and product standardisation (BIS, 2024). As competition grows more fierce, companies are looking for efficiencies that will positively affect their bottom line while enhancing customer trust.

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Jewellery Market Landscape in India



Sources: Metals Focus, World Gold Council

Understanding the Function and Future of Supply Chains

The jewellery supply chain is much more intricate as it includes several downstream and upstream players involved in the supply chain, working both domestically and internationally. Manufacturers in India source gold primarily from imports or the authorised bullion dealers in the country, refining it before using it as an input to produce jewellery. Likewise, diamonds frequently pass through the hands of international mining firms prior to passing through the cutting and polishing, certifying, manufacturing, wholesale distributing, and retail stages. The coordination of many different actors is needed for each stage, leading to considerable information asymmetries and higher procurement, quality control, inventory, financing, logistics and contractual costs.

The disintegration of the supply chain also leaves manufacturers vulnerable to price volatility for precious metals, the exchange rates of foreign currencies, regulations to comply with, and differences in the reliability of suppliers. Longer lead times, higher value chain transaction costs, and lower visibility can occur with multiple intermediaries. Therefore, the efficient supply chain management has come under the spotlight as a strategic quest for jewellery manufacturers to achieve the best possible responsiveness, overcome the lack of efficiency in their operations and ensure a stable quality of their products.

The emergence of Vertically Integrated Firms

To tackle these issues, over the last two decades some of the major jewellery brands in India have adopted a vertically integrated business model. Some of the companies like Titan Company Limited (TANISHQ brand), Kalyan Jewellers and Malabar Gold & Diamonds have gradually streamlined their business activities by adopting a structured organisation that combines procurement, manufacturing, inventory, logistics, and distribution services into a single unit. They have adopted alternative strategies of coordinating multiple points of the value chain in-house to ensure quality control, build a more reliable supply chain, and increase operational efficiency, instead of making heavy use of independent intermediaries (Titan Company Limited, 2024; Kalyan Jewellers India Limited, 2024).

Vertical integration has also been enabled by investments in enterprise resource planning systems, digital inventory management, central procurement and omnichannel retailing. These features facilitate the ability of companies to react better to shifts in consumer demand and commodity prices, and to provide a uniform brand and customer experience in markets spread around the globe. As a result, an organised jewellery manufacturing has evolved vertical integration as a strategic tool to acquire sustainable competitive advantage.

Research Problem

While vertical integration has gained greater traction in the organised jewellery sector in India, the degree to which it has seen returns in terms of economic benefits is not well synthesized in the literature so far. While transaction cost economics, integration of supply chain and firm performance have been studied separately in the past, few studies have specifically looked at the impact of vertical integration on transaction costs, pricing dynamics and profitability of Indian jewellery manufacturers. Currently, the

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

existing evidence is fragmented and exists in academic publications, industry reports and corporate disclosures, which makes it challenging to gain a broad picture of the link between supply chain integration and organisational performance.

The main question that this study aims to answer is:

How does the concept of vertical integration in the jewellery supply chain help in minimizing transaction costs and what are the implications in terms of price and profitability for the jewellery manufacturers in India?

Objectives

The main goal of this study is to analyse the impact of vertical integration on transaction costs in the Indian Jewellery Supply Chain. Specifically, the study aims to assess the consequences of vertical integration for pricing policies, and to compare the performance of the vertically integrated jewellery makers and comparatively less vertically integrated jewellery makers in terms of profitability. The study aims to gain an in-depth understanding of the vertical integration's role in achieving competitive advantage in the growing jewellery industry in India by synthesizing literature from both theoretical and empirical perspectives.

THEORETICAL FRAMEWORK

The theoretical framework offers a conceptual lens for exploring its impact on transaction costs, pricing strategies, and profitability in the Indian jewellery sector. This study does not focus on any single explanation, but combines the theories of Vertical Integration, Supply Chain Management (SCM), and Resource Based View (RBV) of the firm, to gain an understanding of why jewellery manufacturers are increasingly verticalizing their supply chains. These theories collectively imply that vertical integration can be undertaken not merely as a means of mitigating inefficiencies in the operations of firms, but also as a means of building up strategic capabilities which lead ultimately to better financial performance of the firm.

Transaction Cost Economics

The theoretical perspective used in this study is based on the Transaction Cost Economics. The theory is based on the work of Coase (1937), who claimed that the establishment of firms was necessary because making transactions in the open market comes with costs that can often be reduced by organising the activities within a single firm. Instead of taking it for granted that markets always allocate resources efficiently, Coase offered a suggestion that businesses should consider the cost of using the market and the cost of internal coordination when deciding on the boundaries of the organisation.

This framework was expanded by Williamson (1975, 1985) who added the variables that create transaction costs and motivate firms to vertically integrate. The transaction costs are not only due to bounded rationality and uncertainty, but also potential opportunistic behaviour on the part of the market participants, Williamson said. They are especially relevant in industries with unpredictable price changes, uncertain quality, and/or a reliance on specialty suppliers, or when companies have multiple transactions with specific suppliers.

Transaction Cost Economics recognises that there are various types of costs that can affect a firm's decisions. Search costs are the effort involved in locating good suppliers who can meet the quality and relative price requirements. In the jewellery business, manufacturers need to find reliable suppliers of precious metals and gemstones, and meet regulatory requirements and quality certifications. Negotiation costs are incurred during the process of negotiating a contract, such as price negotiation, negotiations on delivery dates, payment conditions, and sharing of risks. The monitoring costs include the control of the suppliers to check if they are following the respective specification including the purity of gold, diamond certification, manufacturing quality etc. Finally, opportunism occurs when trading partners act in their own interests because of information asymmetry, delayed deliveries, quality substitution or renegotiation of contracts once the agreements have been reached (Williamson, 1985).

In jewellery production, these costs of transaction are particularly important because the production relies heavily on the use of expensive raw materials the prices of which are constantly changing. A reliance on a large number of independent intermediaries creates uncertainty and adds to the level of coordination spread across suppliers and distributors in geographically dispersed locations. Vertical integration minimises these costs as transactions can be internalised within the organisation, and they gain more control over procurement, production, stock, logistics and retailing. Thus, the main reason for the increasing trend in organised jewellery manufacturing of the use of integrated business models is explained by Transaction Cost Economics.

Vertical Integration Theory

Vertical Integration Theory provides an insight into how firms extend their control over the different stages of production and distribution so as to achieve increased efficiency and competitive positioning. Vertical integration can take many forms based on the stages that are included in the firm's operations.

Backward Integration involves sourcing, refining or manufacturing upstream activities that are obtained/managed by the company. Backward integration can include anything from engaging directly with bullion suppliers to investing in their own manufacturing

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

plants or processing the gemstones themselves to minimize reliance on suppliers and gain greater control over the quality of the finished product.

Forward integration refers to activities that expand the business toward the customers via company-owned distribution channels, brand retail stores, and online sales channels. It allows companies to manage the customer experience, ensure uniform pricing, maintain after-sales support, and manage their brand reputation.

Some companies go all the way in vertical integration, meaning that they acquire a control over most of the value chain, from procurement to retail, while others partially integrate, internalizing only a few stages and keeping some under the umbrella of the outsourcing partner. The level of integration will vary according to the size of the firm, the availability of capital, managerial capabilities, and the market. Vertical integration is not necessarily a one-size-fits-all phenomenon, but rather a continuum on which companies move to suit their strategic objectives and operational needs (Harrigan, 1984).

Supply Chain Management Theory

While Transaction Cost Economics focuses on the theory of transaction, Supply Chain Management Theory focusses on the theory of efficient coordination of material, money and information flows across the value chain. Collaboration between supply chain partners, minimising lead time, increased transparency of inventory and information sharing are just some of the other positive outcomes of effective supply chain management, beyond cost reduction (Mentzer et al., 2001).

The jewellery sector is especially notable with regard to the coordination of the supply chain, as the production relies on costly raw materials that have very fluctuating prices. When procurement or manufacturing is delayed, the inventory carrying cost can be high, and the responsiveness to changes in consumer demand is a concern. By using integrated supply chains, companies can synchronise procurement, production planning, logistics and retailing functions by relying on a centralised information system. Implementing Enterprise Resource Planning (ERP) systems and digital inventory management further contributes to the accuracy of forecasting, lessens stock differences, and bolsters decision-making for various organisational functions. Theory of Supply Chain Management, therefore, describes how the benefits of coordination efficiencies are in addition to the benefits of transaction cost reductions identified by Transaction Cost Economics.

Resource-Based View

The Resource Based View adds a new dimension to the strategic thinking, with its assertion that sustainable competitive advantage comes from valuable, rare, inimitable, and organized internal resources and capabilities (Barney, 1991). The Resource-Based View is different from the Transaction Cost Economics, which is concerned mainly with the cost of external transactions to be minimised, as the focus is on the development of the firm's capabilities that cannot be easily duplicated by other firms.

Organised jewellery companies build strategic capital by accumulating proprietary manufacturing skills, well-known brands, modern inventory management system, long-term ties with suppliers, state-of-the-art technological infrastructure and wide distribution channels. This enhances the efficiency of operations, as well as ensuring that the customers have greater confidence in the products, certified jewellery and transparent pricing. As these resources become part of the organisation they not only help firms gain a cost advantage but also help them gain product differentiation and long-term profits. Thus, the Resource Based View adds to the Transaction Cost Economics by explaining how vertical integration can provide more than just operational efficiency gains, it can provide a source of a sustained competitive advantage.

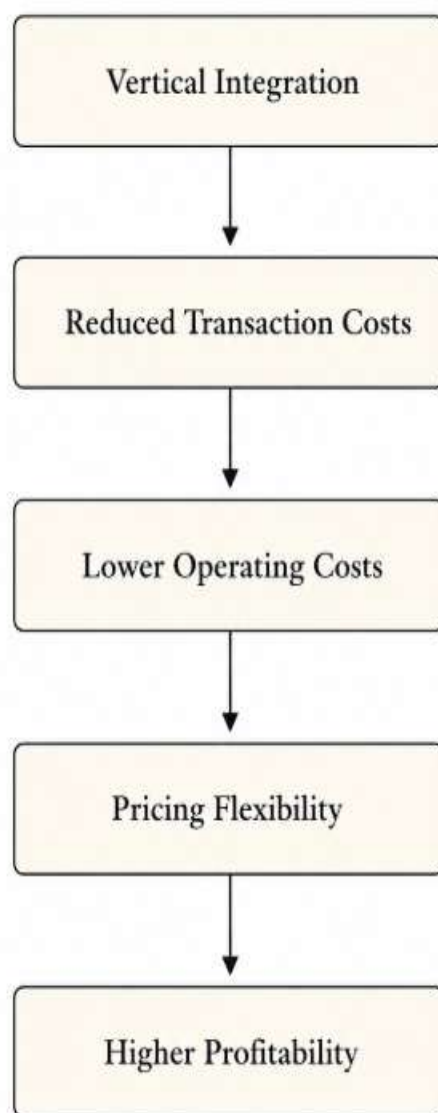
Conceptual Framework

Based on the above theories, this study suggests that vertical integration can positively affect the performance of the organization in a sequence. In-house production eliminates the costs related to the process of finding suppliers, negotiating, monitoring and coordinating multiple suppliers. The cost savings and streamlined supply chain are due the decrease in transaction costs. These improvements allow companies to increase its pricing flexibility – whether it's competitive or premium pricing, backed by a better quality assurance and brand reputation. The operating and strategic advantages result in higher profitability, although the magnitude of this advantage will depend on the capabilities of the company and market conditions.

The conceptual framework combines the ideas of Transaction Cost Economics, Vertical Integration Theory, Supply Chain Management Theory and the Resource Based View in a single model, which will form the basis for the analysis of the Indian jewellery industry. The framework also serves as the foundation for assessing how much vertical integration helps to enhance pricing strategies and profitability by reducing transaction costs.

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

Conceptual framework of the study



Author's illustration

Indian Jewellery Supply Chain

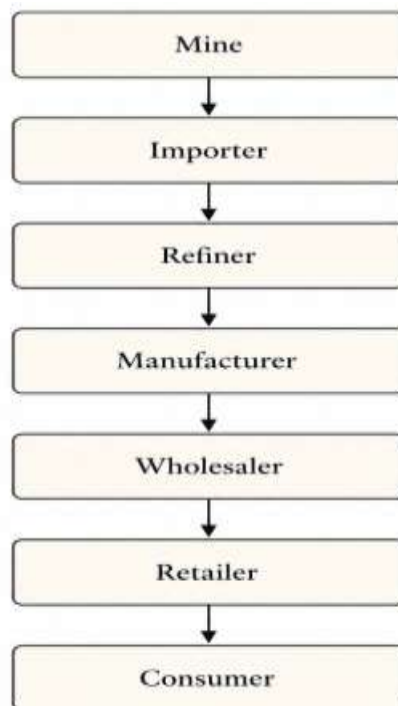
The Indian jewellery value chain is one of the longest and most complicated value chains in manufacturing industry in India. Jewellery manufacturing is a different industry, with many independent players involved in production, both domestically and internationally, and with a wide variety of suppliers and distributors. The product movement before it reaches consumers involves gold, manufacturers, wholesalers, retailers, financial institutions, logistics providers, and certifiers. This piecemeal organization has allowed the industry to host companies of varying sizes; it also generates a host of transaction costs from repeated exchanges on the market, information asymmetry, and coordination problems. It is therefore crucial to learn the structure of the supply chain in order to explain why more and more organised jewellery manufacturers are adopting vertical integration strategies.

Supply Chain Mapping

Domestic gold production is limited and thus India imports most of its gold needs for jewellery production. Gold is supplied to the jewellery market after it has been processed into bullion of which jewellery-grade is the highest refinement, by authorised importers, banks and nominated agencies. Rough diamonds are also brought in from big producing nations and then cut and polished by India's well-established global diamond cutting and polishing industry. After refining and processing, the precious metals and gemstones are turned into jewellery and sold by manufacturers via wholesalers, independent retailers, organised retail chains and finally sold to the consumer market. There are several points at which transaction costs can occur, each stage requiring contractual negotiations, transport, finance, inventory control and quality assurance.

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Simplified Indian jewellery supply chain



Author's illustration

Though the chain might seem straight forward, there can be many middlemen in every step. Gold is purchased from several authorised sources, diamonds are bought from various trading centres, certain parts of the production process are outsourced to specialised artisans and there are several wholesalers and retail outlets. In actual fact, the network is a lot more connected than is indicated by the flow diagram.

Costs Incurred in Transactions

Due to the fragmented structure of the jewellery supply chain, various types of transaction costs have a direct impact on operational efficiency. A significant one is the fragmentation of suppliers. Precious metals, gemstones, packaging materials and various specialty parts are often sourced from many different independent suppliers, which adds time and resources to the supplier identification, evaluation, negotiation and contract process. The negotiation and search operations assume a particular importance as the quality and authenticity of high value inputs are an essential prerequisite for jewellery production.

Another significant source of transaction costs is price uncertainty. The price of gold is constantly changing depending on market developments in other countries, the exchange rate, geopolitical developments and central bank policies. This volatility adds to the procurement risk as well as production planning, inventory management and pricing. Diamond prices can also fluctuate in the market, although to a lesser degree than gold. To reduce financial risk, manufacturers will need to allocate significant resources to tracking market trends and managing inventory risks.

In addition, quality verification adds to the costs of transactions along the supply chain. However, when it comes to jewellery quality it is not always possible to see it with the naked eye, which is why firms rely on the different aspects of hallmarking, diamond grading certificates, lab testing and supplier audits to guarantee the jewellery meets quality standards. While the mandatory hallmarking introduced by the Bureau of Indian Standards (BIS) is strengthening consumer protection, it also adds additional costs to manufacturers and retailers in terms of resources to be spent in certification, documentation and compliance procedures (BIS, 2024).

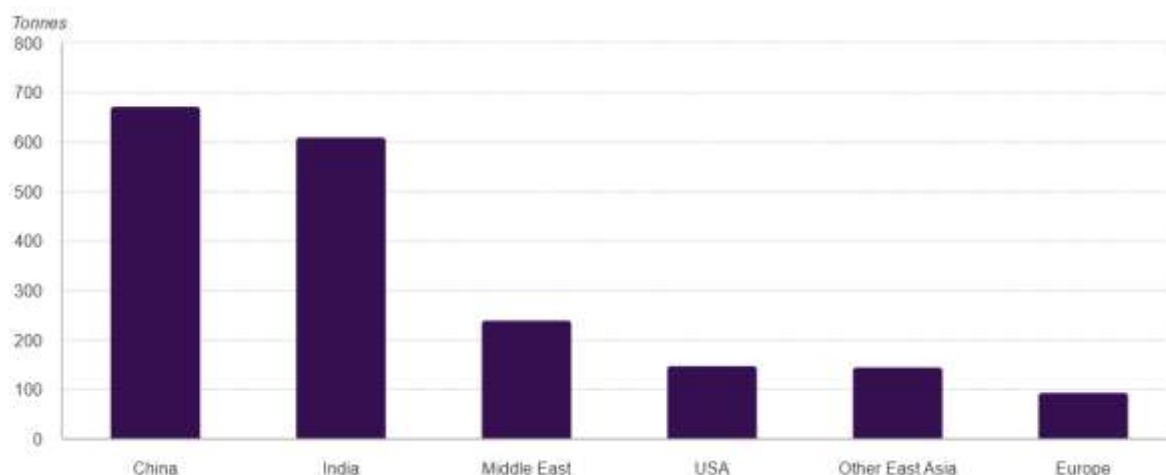
Transaction costs are further accentuated by having multiple intermediaries where there is increased coordination complexity and visibility issues of supply chains. Each extra step in the middle means an extra set of contractual negotiations, a cost of transporting the goods, administrative costs, and the possibility of information asymmetry. Another significant expense is inventory financing, as jewellery manufacturers have to keep their inventories of gold, gemstones, etc. high when they sell and produce jewellery. Because of the high amount of capital tied up in stock, businesses will have to pay for their financing costs and this will directly impact their profitability especially when there are high-interest rates or consumers are not buying as much as they used to.

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Indian Jewellery Market Characteristics

The Indian jewellery industry possesses unique features that have an impact on the supply chain management and business decisions of businesses. Organised and unorganised businesses co-exist, which is one unique characteristic. The jewellery industry is dominated by the local/regional family-owned jewellers. But the organised retail traders have grown fast in the last two decades and have invested in branded goods, standardised production, inventory management using technology and establishing retail outlets across the country. Organised retailers still have scope to grow their share as consumers are looking for transparency, certified quality and reliable after-sales service (AS), the industry reports (2024, CRISIL Ratings).

Jewellery demand in 2021 by countries/regions



Sources: Metals Focus, World Gold Council

With the implementation of mandatory gold hallmarking, the structural shift has got accelerated, which has brought in the standardization and boosted consumer confidence. Hallmark certification can help consumers to know the purity of the gold jewellery, which will help to solve information asymmetry between buyers and sellers and increase the trust of organized retailers (Bureau of Indian Standards, 2024). With differentiation becoming so critical in the branded jewellery sector, with things like quality assurance, transparent pricing, buyback policies and certified diamonds, it has become an even more important competitive edge that consumers must maintain.

The sector is also very export-oriented, which sets it apart from many other manufacturing industries. Despite its status as one of the world's top exporters of cut and polished diamonds and gem and jewellery products, India has not yet fully realized the potential for earning significant foreign exchange earnings and providing employment to millions of people involved in the value chain (Gem & Jewellery Export Promotion Council, 2024). But in order to play in the global market, companies must meet international quality requirements, ethics sourcing demands, and more and more complicated regulation and law. These factors all play a role in the transaction costs analysed in this research and can also account for the increasing trend towards vertically integrated business models by organised jewellery manufacturers.

Top 10 chain stores in India

Name	Stores	Cities/Towns
Tanishq (including Zoya)	382	209
Malabar Gold and Diamonds	150	111
Senco Gold and Diamonds	126	85
Kalyan Jewellers	116	87
Reliance Jewels	99	85
Joyallukas	85	67
PC Jewellers	82	68
Shubh Jewellers	82	N/A*
PC Chandra Jewellers	57	50
Orra Jewellery	58	25

Source: Metals Focus, World Gold Council

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Vertical Integration in the Indian Jewellery Industry

In the organised jewellery industry vertical integration has emerged as an essential trait of India's jewellery industry. Key companies have become more driven to assert control over their entire procurement, manufacturing, distribution and retail processes, as a result of growing competitive pressures, rising consumer demand for certified jewellery, regulatory changes and the complexity of the supply chain. Organised jewellery companies are increasingly incorporating several steps of the value chain in the jewellery industry to gain efficiency, ensure better quality control and enhance consumer confidence, instead of relying on many independent suppliers, wholesalers and retailers. The level of integration is different in various companies, but the general trend indicates that companies are moving towards more integrated business models, which will enhance their operational efficiency and contribute to their growth.

Types of Vertical Integration.

There are three types of vertical integration in jewellery industry: Backward vertical integration, forward vertical integration and Hybrid vertical integration. Both strategies reflect a firm's strategic priorities, financial resources and operational capabilities.

Backward integration is the ability to have visibility into activities upstream of sourcing and production. The jewellery sector that attempts to do this seeks to cut on its reliance on external sources by developing long-term agreements with bullion banks and authorised gold importers, investing in manufacturing centres and concentrating manufacturing operations. Other companies will set up special design centres and quality control laboratories to ensure uniformity and minimise coordination expenses. Having more control over the procurement of raw materials and their production allows companies to optimize production planning, ensure quality standards, and better adapt to price fluctuations of gold.

Forward integration refers to the activities that bring manufacturers closer to the end consumers. Organised jewellery companies have their own showrooms, franchise networks, ecommerce vendors and after sales services as opposed to relying only on an extensive network of independent retailers and distributors. By implementing this approach, companies can ensure a consistent experience for their customers, establish clear pricing models, boost brand awareness, and gather data on customer preferences. Forward integration also helps in improving inventory movement as production decisions can be matched up to the retail demand. Many well known jewellery manufacturers use a combination of forward and backward integration with some elements of both integration models while still outsourcing some of the activities which are not considered as strategic for them. The integration is a hybrid approach that lets companies maintain some degree of control while also gaining financial flexibility without having to commit to full development of all stages of the value chain. This means that the extent of vertical integration varies from firm to firm depending on their operation size, expansion policy and market segment.

Comparative Company Profiles

Vertical integration in the top jewellery companies varies widely in India. However, over the years each organisation has increasingly moved into more control of the activities in the supply chain due to evolving consumer expectations and greater competition.

One of the most integrated business model in the jewellery industry in India is represented by Titan Company through its jewellery brand Tanishq. The company's integrated product design, manufacturing and partner manufacturing, advanced procurement systems, extensive logistics network and company-owned and franchised retail outlets nationwide make them unique. Digital investment in inventory management, demand forecasting, and omnichannel retailing allows Titan to align production with customers' demand, ensuring a uniform product quality throughout the retail network. The integrated model of the company has played a major role in its development as one of the largest organised jewellery retailers in India.

Similarly, Kalyan Jewellers has grown its vertically integrated business by introducing centralised procurement, exclusive manufacturing ties, regional distribution centres and a wide retail network in the country and overseas. The company has also previously made efforts to build its digital footprint with the acquisition and expansion of Candere's online jewellery platform that enables it to better integrate its physical stores with e-commerce. The mix of procurement, retail ownership, and digital distribution helps to give retailers better visibility of inventory and make it more accessible to customers across various sales channels.

Malabar Gold & Diamonds have established an integrated business model, which focuses on sourcing, manufacturing at its Gold & Diamond Manufacturing Plants, coordination of logistics and the presence of a vast retail network across India and in International markets. Ethical sourcing, centralised procurement and standardised quality assurance are important aspects of the company's operations, allowing for a consistent product range offered to customers in geographically spread locations. Another benefit of integration is the ability to allocate inventories effectively among markets with different patterns of consumer demand. PC Jeweller is a business that has a mix of jewellery manufacturing, operating retail stores and exporting. The company aims to diversify its supply chain and deliver more control over product design and quality assurance as well as customer experience by

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keeping some manufacturing operations on board while opening up retail stores under its brand. The export of jewellery to the international market is also enabled by its integration strategy, which allows for a greater coordination between production and distribution.

Senco Gold is steadily moving to integrate the supply chain, with capacity growth, branding and digital sales channels, and a centralised procurement process. The company is heavily rooted in eastern India and is implementing several integrated inventory systems and retail practices that will help it expand into other geographies, while ensuring that it maintains the same quality across its showroom network. The key strategy of the firm is an instance of how medium size organised retailers are gaining ground over the big national brands with vertical integration.

For example, KBS Diamonds operates at 80 percent vertical integration. Manufacturing cost runs about 330 to 350 rupees per gram, brought down by economies of scale in in-house production. Bullion sourcing takes 3 to 4 days. Combined with tight control on logistics and inventory, working capital requirements stay lower than what most competitors deal with. The company reinvests these efficiencies into retail expansion. Stores have grown steadily even as margins held through disciplined procurement

While these enterprises vary in their ownership, geographic presence and growth plans, there are certain common features. All five firms have solidified their direct retail businesses, made more direct investments in technology for inventory, opened more branded showrooms, and better managed sourcing and manufacturing. But none of these companies is vertically integrated in its entirety as a number of stages like mining, bullion production, niche logistics and some manufacturing processes are still outsourced to external partners. Hence, vertical integration in the Indian jewellery industry should be considered in a continuum instead of a binary choice of an organizational decision.

Industry Trends

The Indian jewellery industry has been witnessing several structural changes that have pushed them towards vertical integration. Organised retail is one of the most important ongoing developments. Higher incomes, urbanization, growing awareness among consumers and a higher demand for certified jewellery have led customers to opt for the national brands instead of the traditional local jewellers. Organised retailers enjoy better brand awareness, clearly defined pricing, standard quality control and professional post-sales services, and are able to take a larger and larger share of the domestic market.

Integrated supply chain management has also been further bolstered by the digital transformation. Retailers of modern jewelry have come to rely on Enterprise Resource Planning (ERP) systems, radio-frequency identification (RFID), data analytics and centralized inventory management to track inventory movements from manufacturing plants to warehouses and retail stores. These technologies help in better demand forecasting, lower inventory holding cost, decrease stock out, and make quick replenishment decisions. In addition, increased visibility in the supply chain will improve the coordination between the four activities of procurement, production, logistics, and retail.

A significant change is the introducing of compulsory hallmarking by the BIS. Hallmarking helps to enhance product standardisation by giving consumers greater confidence in the purity of gold products and has impact on holding manufacturers and others accountable across the supply chain. Organised firms have responded to these regulatory requirements more rapidly as integrated operations have helped them to keep quality control, documentation and compliance more efficiently. Consequently, regulatory changes have further strengthened the vertically-integrated jewellery manufacturers' competitive edge.

Last, but by no means least, omnichannel retailing has become an important strategic priority. Today, consumers are increasingly looking for an online/offline experience when researching products, ordering, customising, and seeking after-sales service. In response, leading jewellery companies have thus introduced digital platforms for showroom operations, allowing them to seamlessly move from online to offline sales. Not only does omnichannel integration enhance user experience, but it also offers companies real-time demand data to aid in inventory management and manufacturing scheduling.

All of these have matured into more of an organisational capability, moving beyond cost reduction to include technology adoption, regulatory compliance, customer engagement, and supply chain coordination. The following sections look at how transaction costs are reduced and how pricing strategies and profitability are, in turn, affected via these integrated business models.

How Vertical Integration Reduces Transaction Costs

Procurement Costs

Procurement is one of the biggest contributor of transaction costs in the supply chain of jewellery in India, as the manufacturers are highly reliant on the availability of high value raw materials like gold, diamond and precious gemstones. Jewellery manufacturing is a business with rapidly-changing commodity prices, high standards for quality and long supply chains. Jewellery manufacturing is a business that operates in a volatile environment of commodity prices, stringently demands quality and wide-ranging supply chains. According to Transaction Cost Economics, procurement transaction costs include supplier identification and

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

selection, contract negotiations, price discovery, quality control and verification, and supplier management (Coase, 1937; Williamson, 1985). Vertical integration aims at reducing these costs by gaining more control over sourcing and supplier relationships.

An important way that vertically integrated firms lower procurement expenses is by cutting down on their reliance on many separate suppliers. Look at procurement cycles. KBS Diamonds sources bullion from 4 suppliers and gets it in 3 to 4 days. Diamonds come from about 150 suppliers and take 2 to 4 weeks. Packaging is 5 days from a single source. The time gap between bullion and diamonds shows the real problem: local sourcing is fast, but international materials get held up in transit and negotiation loops. Centralised purchasing helps, but it can't eliminate the structural delays that diamonds hit because of how global diamond trade works. In the past, traditional jewellery makers have to go through multiple intermediaries, and involve multiple rounds of negotiation, generating information asymmetry and adding value. Centralised procurement systems and long-term relationship with authorised suppliers are increasingly being used by the organised jewellery companies. For instance, Titan Company buys fresh gold from Reserve Bank of India (RBI) approved banks that bring in gold from London Bullion Market Association (LBMA) certified banks and a significant part of the gold requirement is sourced from recycled gold through its customer gold exchange programme. The company also has an internal bullion management policy to optimise the use of gold and reduce the need to purchase newly mined gold (Titan Company Limited, 2024). These practices cut costs for supplier searches, enhance procurement efficiency and supply reliability.

Long-term supplier relationships also cut down negotiation expenses. Vertically integrated companies set up formal vendor management systems that streamline contractual requirements and boost coordination, instead of negotiating these requirements with new suppliers in every procurement cycle. Titan's Jewellery Division has adopted the Titan Supplier Engagement Protocol (TSEP) for diamond sourcing, which focuses on responsible sourcing, traceability and supply chain integrity. Furthermore, the company expects jewellery manufacturers to adhere to its '4P' framework of People, Place, Process and Planet' principles, establishing common guidelines regarding working conditions, legislative compliance, quality processes, environmental responsibility and ethical sourcing. The standardised procurement arrangements decrease contractual unpredictability and diminish administrative expenses for supplier evaluation and observing (Titan Company Limited, 2024).

Additionally, bulk purchasing also helps reduce procurement costs as it allows integrated companies to enjoy economies of scale. Large organised retailers buy significantly more bullion and gemstone than independent retailers, which gives them better leverage with authorised suppliers. A greater number of purchases brings larger firms better commercial conditions, better delivery schedules, and lower per unit procurement costs. Titan Company Limited (2024) and Kalyan Jewellers India Limited (2024) in their company disclosures have consistently reported that centralised procurement plays a role in supply chain strategy for the leading organised jewellers, ensuring consistency in the raw material availability and quality.

Vertical integration also helps to limit procurement uncertainty as it provides greater traceability throughout the sourcing process. As consumers, regulators and investors demand more transparency in the origin of the precious metals and gemstones in jewellery, ethical sourcing is becoming a growing priority in the global jewellery industry. It has been reported that diamonds are sourced from approved sightholders from internationally recognised producers who adhere to the Kimberley Process Certification Scheme and that supplier audits and onboarding procedures are undertaken to ensure that they continue to meet responsible sourcing standards (Titan Company Limited, 2024). The addition of supplier governance into the procurement processes helps firms avoid quality problems, supplier opportunism, and reputational loss, which are all aspects of transaction costs in Williamson's (1985) model.

In summary, procurement integration allows organized jewellery manufacturers to streamline a variety of market transactions with integrated internal processes and with suppliers in the long term. Supplier search, contract negotiation, procurement uncertainty and quality related risks all mitigate transaction costs and increase supply chain resiliency. Therefore, procurement integration is the operational platform that enables additional efficiencies in information management, monitoring, logistics and coordination.

Information Costs

Information costs occur when companies are paying for the data they need for procurement, production, inventory and sales. Fragmented jewellery supply chain has a lot of information across suppliers, manufacturers, distributors and retailers which makes it difficult to predict the demand accurately and to coordinate inventory. Such gaps in information can lead to overstocking, stock-outs, late deliveries, and poor production planning. The benefits of vertical integration include lower costs for information flows and real time coordination between stages in the value chain (Mentzer et al., 2001).

The use of Enterprise Resource Planning (ERP) systems, digital inventory management and data analytics is on the rise for organised jewellery manufacturers, allowing them to connect procurement, manufacturing, storage and retail, to create an integrated

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

business. Organised jewellery manufacturers are increasingly using Enterprise Resource Planning (ERP) systems, digital inventory management and data analysis to integrate procurement, manufacturing, storage and retail activity, and to create an integrated business. For instance, Titan Company emphasises the application of technology-driven operations, central planning and an omnichannel retail approach that provides inventory visibility throughout its wide array of retail locations. These types of systems help to speed up inventory allocation, make better predictions of demand, and make better replenishment decisions, minimizing delays and information gaps between various business units (Titan Company Limited, 2024).

Likewise, the information system provides a way of data-driven production planning by enabling manufacturers to synchronize the production with the demand that they observe in the retail market. Vertically integrated companies would get direct information about sales from their own retail networks, rather than relying on forecasts they make on their own, so that they are able to respond more quickly to market trends. As a result, the accuracy of information sharing leads to fewer forecast errors, lower inventory carrying costs and greater overall supply chain efficiency. These cost savings on information are additional to the procurement savings already mentioned and add to the benefits of vertical integration.

Monitoring Costs

Monitoring costs are those incurred by companies to verify that their suppliers and production partners meet the agreed product quality and purity standards, ethical sourcing, and regulatory requirements. These costs are especially important in the jewellery world because it is hard to determine the purity of gold and the authenticity of diamonds just by looking at them. To minimize the information asymmetry and consumer trust, manufacturers and retailers need to invest in quality control systems, supplier audits, product testing and certification processes (Williamson, 1985).

Vertical integration helps the firm to monitor the critical activities of production and quality control under its direct control and reduce monitoring expenses. The largest jewellers have developed standard manufacturing processes and their quality control systems are in place to ensure that the different stores are uniform. For example, Titan Company has a Titan Supplier Engagement Protocol (TSEP) that suppliers must follow and diamonds come from suppliers that follow the Kimberley Process Certification Scheme. These governance mechanisms will increase transparency in the chain and help to reduce quality failures or unethical practices in the chain (Titan Company Limited, 2024).

New regulatory changes, such as the marking of hallmarks for Indian market by the Bureau of Indian Standards (BIS), have also improved the monitoring system. Hallmarked jewellery provides a third-party guarantee of the gold purity, builds and supports consumer confidence in the market and reduces potential problems due to product quality. Vertically integrated firms are more likely to meet hallmarking requirements and to have a consistent quality standard throughout their retail networks because they have more control over the manufacturing process and the retail operation. This therefore reduces the monitoring expenses and enhances brand reputation and customer confidence.

Logistics Costs

Logistics costs include product transport, raw material transportation, warehousing cost, and availability of product for retail stores. If the supply chain is fragmented, it means there are several intermediaries that require more transportation needs, leads to longer lead time and less visibility on inventory movement. The consequences of such inefficiencies can be higher storage costs, delayed product replenishment and increased working capital requirements. The solution to such problems is vertical integration and centralization of logistics operations, as well as coordinating between procurement, manufacturing, distribution and retail (Christopher, 2016).

Organised jewellery companies have made significant investments in their integrated logistics and inventory management systems to optimise the movement of products through their stores. For instance, KBS Diamonds runs logistics at 10 rupees per gram delivered to retail. Inventory holding costs are 9 percent annually, with stock turning 2.5 to 3 times per year. Those are tight numbers for jewellery. Most fragmented chains see higher holding costs because goods sit longer in warehouses waiting for distribution. The turnover rate means goods move from factory to retail in about 4 to 5 months. Unintegrated operators often see 6 to 8 months. Another example - Titan Company has a centralised planning and technology-driven inventory management system that enables efficient distribution of jewellery to its retail outlets. The company's omnichannel capabilities also enable inventory access and fulfilment across a variety of sales channels to maximize stock utilization, minimize excess inventory holding, etc. (Titan Company Limited, 2024). Likewise, organized retailers are getting more and more interested in regional centers of distribution for better movement of products, faster delivery, and reduced transportation expenses.

Efficient logistics also improve inventory control, minimise excess stock and ensure high-demand products are available in retail stores. Greater visibility in inventory reduces warehousing expenses and the capital that is tied up in unsold jewellery. The vertically

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

integrated logistics systems therefore help to minimize the operating costs, optimize the transportation process, shorten delivery lead times, and accelerate the turnover of the supply chain.

Coordination Costs

Coordination costs are the expenses incurred in synchronising activities across the procurement, manufacturing, logistics and retail processes. An uncoordinated jewellery supply chain with distinct goals of the independent suppliers, manufacturers, wholesalers, and retailers results in slow communication lines, low efficiencies, and slow reactions to changes in consumer demand. The coordination problems arise in managing the inter-firm relationship and can diminish overall operating efficiency (Williamson, 1985), as suggested by Transaction Cost Economics. The inefficiencies can be reduced through vertical integration, which involves replacing market-based with internal organizational coordination.

In vertically integrated jewellery companies, production planning is closely associated with the procurement and retail functions. Data from company owned outlets and online sales is directly fed into the manufacturing and inventory management teams, enabling the production plan to be adjusted based on consumers' preferences. This seamless communication streamlines the production process, helps prevent stockout situations, and allows for faster replenishment of popular jewellery styles. Titan Company Limited, for instance, emphasises that it leverages integrated planning, digital technologies, and omnichannel operations to optimise coordination between its value chain, leading to a more responsive operation and better customer service (Titan Company Limited, 2024).

A better understanding of internal communication also allows for better collaboration between the design teams, manufacturing units, logistics centres, and retail outlets. A vertically integrated approach allows businesses to streamline their operations, have a standardised operating procedure and make decisions from a central point, avoiding multiple external intermediaries and minimising administrative complexity and enhanced execution. The benefits of these efficiencies include reduced lead times, reduced coordination expenses and the ability of companies to better handle price volatility of gold and consumer demand.

All the evidence presented in this chapter shows that vertical integration helps to lower transaction costs through better procurement efficiency, better information sharing, better quality monitoring, better logistics and better coordinating internally. While the extent to which these benefits are realised will differ from one firm to another, depending on the scale and level of integration, the literature is clear that integrated supply chains offer organised jewellery manufacturers many operational benefits. These benefits form the foundation that is used in the next discussion of the impact of reduced transaction costs on pricing and long-term profitability.

Impact of vertical integration on transaction costs

Transaction Cost Category	Before Vertical Integration	After Vertical Integration
Procurement Costs	Multiple suppliers, repeated negotiations, higher supplier dependence	Centralised procurement, long-term supplier relationships, economies of scale
Information Costs	Fragmented information, forecasting errors, limited inventory visibility	ERP systems, integrated inventory management, real-time information sharing
Monitoring Costs	Frequent supplier inspections, quality uncertainty, certification challenges	Standardised quality control, hallmarking compliance, supplier governance
Logistics Costs	Multiple transportation stages, higher warehousing costs, longer lead times	Centralised logistics, improved inventory allocation, reduced lead times
Coordination Costs	Communication delays, disconnected planning, inefficient retail coordination	Integrated production planning, centralised decision-making, omnichannel coordination

Author's compilation

Effects on Pricing Strategy

One of the most critical competitive choices in jewellery is pricing as it is affected by various factors such as the gold market price, making charges, taxes, certification charges and retail margins. Jewellers are not very influential in setting the gold price

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

determined internationally, but have a higher degree of flexibility in managing their operational costs and adding value to the service. Vertical integration therefore has a negative effect on prices mainly because it reduces transaction costs and increases operational efficiency, not because it changes the price of precious metals. The results of this research suggest that integrated jewellery manufacturers use cost based pricing, premium pricing and dynamic pricing to further their competitive advantage.

Cost-Based Pricing

Vertical integration is the process whereby businesses link together various stages of a supply chain to minimise procurement, manufacturing, logistics and coordination costs. Reduced operating costs allow companies to be more flexible in setting making charges and retail margins. Williamson (1985) in his book 'Transaction Cost Economics' stated that lower internal transaction cost will allow the firms to create the goods more efficiently, and lower the price of supplier negotiation, inventory control and quality monitoring.

Organised jewellery stores like the Titan Company and Kalyan Jewellers have made significant investments in their centralised purchasing and systems, manufacturing units, inventory management systems, and their own retail stores. The investments made are to enhance operational efficiency and to cut down on wastage of unnecessary administrative costs (Titan Company Limited, 2024; Kalyan Jewellers India Limited, 2024). Consequently, companies can either pass their benefits to customers by reducing making charges and offering discounts or keep their hard-earned profits as more profits on their bottom line. In times of high gold prices, organised jewellers have also launched lightweight jewellery lines to mitigate rising gold prices and also lowered the making charges for certain products to retain customer demand, reflecting how their operational efficiency can help them to adapt to price changes (Mint, 2024).

Premium Pricing

Vertical integration doesn't always lead to competitive behavior by firms on the basis of price. Rather, many organized jewelry makers employ high-quality pricing tactics that focus on brand reputation, product quality, certification, and trust. Consumers are of the view that jewellery items purchased from the brand have lesser purchasing risk and hence are more reliable than the ones purchased from smaller independent jewellers.

Brands like Tanishq, Kalyan Jewellers and Malabar Gold & Diamonds have developed an identity with a standardised manufacturing process, transparent pricing policies, certified diamonds, BIS hallmarking. These quality assurance measures help in minimizing information asymmetry and enhance consumers' confidence, thereby enabling the organised retailers to collect premium making charges from many unorganised jewellers (Bureau of Indian Standards, 2024). Consumers are willing to pay for the intrinsic value of gold, as well as for the assurance of purity, authenticity, after-sales service, exchange policies and a known reputation. Therefore, vertical integration can help improve pricing power, as a business will have the ability to offer products and services that are different to competitors in terms of capability – not just price.

Dynamic Pricing

International gold price fluctuations are a common occurrence in the jewellery industry. To stay competitive without compromising profit, organised jewellery manufacturers are increasingly adopting dynamic pricing strategies, backed by digital technologies and integrated inventory systems. In contrast to fragmented supply chains, the vertically integrated companies have the ability to have real-time visibility on inventory, procurement costs, and retail demand, which will make real-time adjustments to pricing decisions. Companies can track bullion prices, stocks and trends in buying patterns from various retail stores using an integrated Enterprise Resource Planning (ERP) system. These features enhance demand forecasting, optimise stock allocation, and minimise overstocking. This allows companies to be more agile in reacting to unexpected price fluctuations in gold without compromising on the availability of their products (Titan Company Limited, 2024). The technology thus improves the ability to respond to the market by providing real-time data from the market, not through delayed communication between separate participants of the supply chain.

Comparative Pricing Examples

While the daily gold rates are the same for both organised and independent gold merchants, there are many differences in the way charges are calculated, certification and value added services. Organised retailers would normally make clear the gold charges, certification charges, applicable taxes, and charges separately, and disclose the gold value. Independent jewellers might have a lower making charge in some instances due to fewer operating expenses, however in some cases, pricing is not as standard and can differ by location and retailer.

Organised jewellers are finding that they are in competition with each other for a variety of factors, including the clearness of their pricing, the degree of certification of quality, exchange schemes, and promotional offers, not just lower prices. Industry evidence

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

has shown this. Incorporating business models into their operations allows them to capture efficiency, as well as invest in technology, customer service and branding. Thus, while making charges for branded jewellery might be a bit higher as compared to those of smaller shops, it is generally believed that the overall value of the jewellery is higher as it is guaranteed to be pure, hallmarked and consistent in style and better after-sales service provided. Thus, vertical integration affects pricing not only by lowering prices, but also by giving firms the strategic choice to match the cost competitiveness of the firm with premium value creation in the market depending on the positioning.

Effects on Profitability

Revenue Growth

Growth in earnings often shows if merging operations helps a company perform better. Though income shifts due to things like buyer interest, fluctuations in gold value, or broader economic trends, companies that combine stages of production usually hold stronger ground for lasting expansion - they manage sourcing, making goods, stock levels, and storefront delivery themselves. These businesses adjust quicker to market changes and attract more customers when they have smoother supply lines and items are offered through a variety of sales channels.

Big jewellery firms doing well backs up this link. KBS Diamonds grew revenue 5 to 8 percent year over year. That growth came not from raising prices, but from opening new stores and moving inventory faster. Higher turnover and lower holding costs freed up cash that went into retail locations and digital channels. Moreover, Titan has also not been short of cash as the gem trade saw a significant growth due to the continued interest of buyers, increased reach and improved online-offline mix in FY24-25. The company's gem revenue increased 26% in the first quarter of the fiscal year compared with the previous year's first quarter, and the company's earnings rose 25.5% during the quarter. That outcome was due to the healthy volume of foot traffic, increased Tanishq stores and the better convergence between brick-and-mortar stores and online platforms. Despite a temporary squeeze on profit margins due to the reduction of gold import tax, Titan's sales efforts have held up pretty well, demonstrating the strength of its combined approach in the face of pressure.

Kalyan Jewellers' growth trajectory is similar to many other jewellers. Over the years, their financial reports reveal that sales growth has been achieved not only from new stores but also by better buying, using common systems. The sales of the online portals (Candere) have been going hand in hand with the storefronts, making the shopping easier for consumers. They don't limit themselves to selling in bulk any longer, but handle much of the process themselves, reaching customers directly in different areas. This gives rise to better stock control, and sharper daily operations. These decisions have led to a consistent growth in income over the years, while the brand continues to expand its presence in local and international markets (Kalyan Jewellers India Limited, 2024).

That being said, higher profits aren't just a matter of having greater control over the value chain. The big jewellery chains are also making headway, as customers are increasingly looking for branded jewellery, the legal stamping regime is in place, and there's more money available to spend, with informal businesses moving towards registered businesses. However, having to deal with several production stages enables companies to make better use of these changes – the stock flows smoothly, the quality remains consistent, the service is smoother. Therefore, it seems that control in the different stages is not the sole driver of growth for a company; it just paves the way for growth.

Gross Margins

The gross margin can be seen as a company's ability to manage the cost of the raw material and the manufacturing of jewellery. Although global prices for gold are beyond the control of most jewellers, there are enterprises that stand to benefit from simplifying their procurement process with reduced supplier relationships. A firm that has control over more stages of production will be able to reduce waste during the process of creating a product. These are the kinds of efficiencies that increase the profits per sale. Earnings should mirror the improvement in operations from the mine to market. High margins are not necessarily due to luck with metal rates, but rather a result of smart supply chain management. This number is important because it shows what real progress is taking place, in the background.

There's no easier way to get a better advantage of the high jewellery chains' profit margins than by understanding why. They operate more efficiently than most small shops do, they purchase from each other and run their businesses more effectively when they have more volume. The picture from Titan Company is clear that they have succeeded in jewellery because they have taken care of the stock, they have made better selections in the products that they sell, and they have improved the speed of movement of their stocks from their source to their making. They do it in a way that directly connects the purchase to the production and does not waste a single thing along the way. Progress is evident where it matters most - at Kalyan Jewellers, with the management

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

of goods, increasing store productivity and smoothening supply chains. Rises and falls in gold prices help to stabilize profits. The figures from the latest filings endorse each of the claims (Titan Company Limited, 2024; Kalyan Jewellers India Limited, 2024). However, jewelry profit margins are very sensitive to fluctuations in raw material prices and spending patterns. If the price of gold continues to rise quickly, businesses may have to settle for lower profit margins - particularly if they acquired shares at record prices or maintained the gold price to encourage additional purchases. But those who manage their own operations from start to finish fare better when the tide turns; buying plans, improved stock management, and synchronized pricing are some of their advantages for reacting quickly compared to outfits that are dependent on outside partners. While having more steps won't eliminate market volatility, it will help a company have a better handle on how to safeguard earnings amid the chaos of volatility and the fewer middle-step expenses.

Operating Margins

What's left over from sales once daily costs are paid shows up in the operating margin, giving a clear picture of how well a company runs its routine tasks. While gross margin only looks at income versus production outlays, this measure folds in choices around buying supplies, moving products, handling stock, storefronts, promotion efforts, plus office spending. When businesses bring different stages together under one roof, smoother workflows tend to lift that bottom-line percentage more than the basic sale-cost gap.

When assessing the best jewellery chains the operators who have total control over operations run tighter ship. Titan did well to reduce costs in its stores, maximize output from each store, connect systems online and to keep spending under control to make a steady profit in its stores. Year in and year out, they cite tech upgrades, easier logistics, combined physical and digital stores – all contributing to their expansion without compromising results (Titan Company Limited, 2024). They stretched every rupee further over at Kalyan Jewellers which is a buying power across the locations, moving goods where they were needed most, and growing their own outlets. With sales on the rise, the costs remained under control with structure working behind the scenes (Kalyan Jewellers India Limited, 2024).

Of course, more control doesn't always translate into higher profits per sale. Big steady expenses occur for running factories, tech systems, large stores, and shipping hubs. Those never-ending costs can become more of a burden on earnings when people are buying less or when gold becomes significantly more expensive. Profitability ties just as much to how fully a company uses its own resources as it does to cutting waste inside operations. In general, numbers from official records show companies managing full ownership chains tend to perform better across years since savings and teamwork often cover the extra management load.

Return on Capital

Profits from invested money - this is what return on capital shows, often called return on capital employed. When companies own more of their supply chain, the way they use cash matters even more. Think factories, software systems, storage centers, delivery routes, stores that carry only their brand - they pour funds into all these things. Yes, spending more is done up front. But improved management can result in more efficient operations in the future. Those big expenditures can lead to better results in the long run, if managed properly.

Year after year, large jewellery companies demonstrate that "full-control supply lines" pay off with solid profits. But Titan remains ahead due to its careful spending, excellent inventory management and gradual growth in jewellery sales. It has an inbuilt system to allow it to operate factories, shops and stores tech tools seamlessly, providing additional value for investors (Titan Company Limited, 2024). Similarly, Kalyan Jewellers has had more success in establishing additional display centres, procuring from one central source and moving the items quickly by having a tighter control of the movement - while it expands its reach at home and internationally (Kalyan Jewellers India Limited, 2024).

But, profits from vertical integration are not instant, nor do they impact all companies the same. Heavy investments in factories, supply chains and stores pay off financially only over several years. Rapid expansion without commensurate sales can make it easy to run at a loss due to unused capacity and high debt levels. Research indicates that better returns occur primarily during smooth operations, good stock management and steady growth of income. Profit gains come not just from merging parts of the business, but from how skillfully leaders handle daily challenges and long-term plans.

Limits of Growing Your Own Parts

Even so, combining parts of the jewellery business under one roof brings challenges alongside perks. Getting the promised rewards from economic theories depends heavily on how well leaders manage things plus whether markets behave nicely. Running everything from mining to selling means dealing with tangled operations that drain money fast. As a result, some companies earn more through control while others stumble based on size, cash access, skill in steering complex systems.

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

A major drawback? The steep upfront cost needed to build and keep full control over operations. Owning factories, warehouses, tech systems, plus stores means locking in large sums for years. While small jewelers often outsource tasks, companies managing everything internally handle every expense themselves - buying, running, updating. Economies can go on a roller coaster ride and consumers' confidence can be shaken, creating a squeeze on cash flow (Williamson, 1985).

On the shelves are heavy stocks of gold, stones, diamonds - expensive goods that take up cash flow. These products are of great value and are "locked" rather than "moving" through operations. Tastes change, markets jitter, even when they're organised using digital tracking what is going on in storage is outside anyone's control. When gold rises in value, there's a tendency for buyers to pull back, for fear of spending. The other way around, however, is that whenever it declines, so does the value of whatever is kept in vaults. Stocks fluctuate in value, so it's a risk to keep them on hand. Nonetheless, this is not something that Titan is oblivious to - price fluctuations of materials can cause operational problems. It would then hedge prices ahead of time instead of reacting late and changing the amount that it carries. These types of actions help stabilize the ship when markets are choppy (Titan Company Limited, 2024).

Vertical control will further delay the speed of a company's adaptation when one step deeper into structure. The more "ownership" in the process, the longer it will take to change directions when tech advances. If internal rules are too tight, supplier breakthroughs will escape through cracks. Outside players move their feet faster, without additional layers they've created in-house. When all these things are combined -- buying, making, moving items, and selling on the shelves or online -- there is weight behind the scenes. Tasks multiply when you stack them under one roof! It's not only that the various regions thin out concentration -- it is like each store is another knot in a long thread.

The other way to look at it: It's not always better to be under a single roof. Whether they are offset by the additional costs of smooth operations and reduced deal making costs is what is important. While results here suggest improved statistics for jewelry companies operating their own supply chains, the profitability of such businesses is influenced by various factors such as size, leadership ability, technology implementation, and the economic climate. Seeing both sides clearly helps answer the main puzzle this work set out to explore.

DISCUSSION

This research aimed to explore how deeply moving up the supply chain cuts costs for Indian jewellery makers, while also shaping their prices and profits. Using ideas from studies on ownership links, cost efficiency, business resources, and logistics - along with data from journals and corporate reports - results show tighter control often brings real gains in operations and earnings. Yet such advantages do not appear simply because a firm integrates; they differ widely between companies. What decides the outcome? Skills within the organisation, scale of operation, use of technology, plus shifts in demand and competition shape whether integration helps at all.

Vertical integration and transaction costs?

Looking back at what this research found, it becomes clear that combining operations under one roof cuts down expenses tied to trading between separate companies. When managing things inside a company turns cheaper than dealing through outside suppliers, businesses grow larger - just like Coase pointed out long ago. According to Williamson, hunting for vendors, hammering out deals, watching performance, and guarding against self-serving actions add up; these issues show up strongly where India's gem and metal networks stay split into many small players.

Vertical jewellery makers buy materials in large amounts, thanks to shared purchasing setups that cut down on buying expenses. Because they work closely with suppliers over time, prices stay lower without constant renegotiation. When these companies use ERP tools, handling information becomes smoother and less costly. Digital tracking of stock helps avoid guesswork, linking purchases directly to what customers want. Predictions based on actual data keep production cycles aligned across departments. Quality checks follow clear rules, which lowers oversight effort at every step. All pieces meet legal marking standards before leaving workshops. Suppliers must stick to strict guidelines, reducing the need for repeated audits. Certified diamonds add trust, cutting back on verification steps later. Shipping routes get smarter when factories plan ahead with updated schedules. Less storage space is needed since parts move faster from one stage to the next. Delays fade because updates flow quickly between teams involved. Because of how Titan Company, Kalyan Jewellers, and Malabar Gold & Diamonds run their operations, it's clear gains come when buying materials, making products, tracking stock, moving goods, and selling link together smoothly under one roof. So far, research agrees - keeping control across these steps cuts down on extra costs in India's jewellery market, especially if the business is big enough to make it matter.

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

Vertical Integration and Its Effect on Prices?

One reason prices shift lies in how companies structure their operations. Because global trade sets gold values, makers can't tweak what matters most in cost makeup. Rather, to stay ahead, it is all about monitoring daily expenditure. Efficiency in movement of materials becomes key. Production fees, stock handling, overheads are the places where hidden savings can be found. The way each enterprise processes these elements determines their advantage. Not all strategies are created equal.

Reducing transaction costs creates the space for more flexible price adjustments. If a company cuts back on their purchase of supplies, shipping or office staff, then they can afford to offer lower prices on their products because of these savings, but not significantly less than they would otherwise. If gold continues to increase in price, being affordable is crucial to maintaining the interest of buyers. Without such control over pricing, holding onto customers might get tougher.

When all at once, combining operations, companies can look for higher prices. Big jewellery stores invest in brand names, authentic jewellery, transparent pricing, assurance of quality, and service-oriented employees. All this makes a buyer feel more at ease and know he has little risk in buying, and this is why he is willing to pay more than a smaller jeweller. Unlike "cutting prices," the players weave into the mind of the player with steady standards, meet the stamp requirements, provide a return deal, and ensure a smooth shopping experience both online and offline.

An alternative interpretation: Companies do not have to drive up prices just because they control more of their supply chain. Flexibility gets into the darker area of charging, allowing businesses to change the way they charge. Some try to cut costs in order to charge less for tags while others try to add value by pricing their tags higher because they have control over production. Brand strength and customer expectation has a significant influence here. The best route is determined by where the firm is located in the market.

Vertical Integration and Its Effect on Profits?

The advantages of vertical integration vary from company to company, but they generally result in higher profits. Financial reports indicate that the top jewellery chains are on a steady growth path with the help of expanding stores, improved inventory management, technology upgrades and connected outlets. The rising gross margins and operating margins indicate more efficient supply processes which are reducing wasted costs. Efficient gains are realized by good coordination, not necessarily by scale.

However, it has been revealed that profits are not only derived from the ownership of the production process stages. These also affect outcomes - when people want more jewellery, when gold prices move or when economies turn, for instance. What's more, new regulations and a shift toward branded stores throughout the industry are important factors. Having factories, tech systems, storage and shops requires a substantial initial investment. Such a dedication increases the continuous costs. But when gold prices fluctuate wildly or when the consumer retreats they can become a burden.

Profitability from vertical integration is not assured - it depends on the management of vertical integration. Sometimes, however, bigger businesses can control costs more effectively by simply operating at a higher volume, distributing the pricey set up costs through multiple outlets. A popular brand can charge more; effective tech can help maintain stock levels and ensure daily operations run smoothly. Cash flow matters just as much since holding large amounts of jewellery ties up serious money. Those who blend these strengths tend to see lasting profit gains - unlike others jumping into vertical setups without enough funds or skilled leadership.

One thing stands clear: pulling together different production stages can boost profits, though only under certain conditions. Not every company gains just by merging parts of its process. What matters more is how smoothly a business lines up suppliers, uses tools like software or machines, handles expensive setups, and shifts when markets change. So it turns out - in India's gem and gold trade - linking operations closely works well, but only if done right. Success comes not from the move itself, yet from how carefully it unfolds.

CONCLUSION

Looking into how deeply jewellery makers in India control their supply chains shows it cuts down on expenses tied to buying and selling parts. Because they handle more steps themselves, companies often charge differently and see shifts in profit levels. Pulling together ideas from studies about transactions, business structure, managing supplies, and internal strengths - along with data from research papers, sector summaries, and firm filings - builds a clearer picture. It appears that having more of the process isn't only a company shape thing. This creates a smoother running business, differentiates it from its competitors and builds long-term business value over time. The seeming motion around ownership is more about how things work, how they're played, and how much they can contribute to future gains.

To What Extent Does Vertical Integration in the Jewellery Supply Chain Reduce Transaction Costs and How it Affects the Pricing and Profitability for Indian Jewellery Manufacturers?

Vertical integration yields significant transaction savings as demonstrated by results, because it aligns the purchase of materials, manufacturing, transportation, inventory management and retail operations. With more control over many aspects of the manufacturing process, the company is less dependent on suppliers, fewer people have to work on finding vendors, agreement processes with suppliers are easier and smoother, product quality controls are tighter, and data flows between departments are smoother. Digital Inventory tracking systems, departmental planning software, single purchasing processes, and integrated store setups increase a business's visibility of their supply chain as well as their agility in response. This is a matter of serious concern in India's gem and metal industry which is characterized by fragmented markets, erratic gold prices, severe quality standards for gold purity, and many intermediaries.

On closer inspection, the research reveals that reducing transaction costs facilitates price adjustments for companies. Jewel makers have little control over the prices of gold because they are determined worldwide. Instead, they look towards less rocky operations to get ahead. Multi-stage firms could be able to offer their clients lower prices for craftsmanship due to lower costs or maintain their prices and make more per sale. Plus, if fully integrated, then stronger brand image - and space for higher price tags. The quality is consistent, marks are in line with the standards, trust is built gradually. Ultimately, the amount of savings that these structured players have, and their position in the larger playing field, is reflected in these structured prices.

However, it is not self-evident that as a company increasingly owns its supply chain, profits will follow. A few jewellery stores experience consistent sales increases when they connect production to their stores and technologize improvements. However, success sometimes depends on size and brand recognition, or the flow of inventory into and out of the establishment. Not all firms make it to the top – an unprofessional and under-resourced company might suffer from exacerbated expenses and complex management. Great success typically comes about when several benefits align. It's not integration, it's what is around integration. So, here is what we observed - vertical integration keeps the jewellery manufacturers in India from incurring a lot of transaction costs and it also helps them to set the price range right and make profits. But not every player will reap those benefits. True profits become apparent when businesses manage their supply chains effectively, leverage technology strategically, minimize inventory risks, and cultivate a robust brand reputation in the long term. Going vertical is not simply a matter of putting pieces of a business together—how they are executed is what's important. But it is not only about doing it that matters, it is about doing it the right way.

This study has implications for the real world to be noted. The investment in equipment is less relevant when combined with a lack of attention to tech tools, vendor management, smart stock management, or connected store networks - all are drivers to vertical control success. Home and export of India's gem trade gets a boost as authorities who support purity certification, open supply chains, digital transformations and structured retail development roll up their sleeves. Buyers get more confident when these steps converge, creating more consistency and smoother operations across the field. There is less setback when there was lack of trust. This is a more focused, more reliable marketplace, with planned choices.

Although this review is an extensive coverage of published material, there are a few boundaries. It is based exclusively on books, journals, official documents and corporate papers - no new surveys or number crunching has taken place here. For this reason, what comes out is more of a connecting of dots than a causal link. In the future, this could be expanded to include balance sheet deep dives, statistical analysis, real-world scenarios and discussions with jewel business owners to estimate the level of correlation between operations and cost, price and profitability. Comparing to other sectors in other developing nations might also help to reveal how the rules and systems affect the extent to which vertical control is effective.

Vertical integration is now a bigger factor in the planning of Indian jewellery companies' moves. Retail is now on the rise and consumers are looking for better information about their purchases: Quality is important as is trust. In-house operation of some parts of the supply chain brings smoother operation than before. Field sizes may not be the most important element of staying ahead, but intelligent coordination of operations. A mix of technology improvements and effective management can hone the companies' response to changing needs. Brands that align internal control, modern tools, consistent identity, fare well quietly. Longevity comes not from chasing trends but from steady alignment behind the scenes. Success shows up slowly, built on choices made early, away from spotlight.

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