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TEKCOM CORPORATION: DRIVING FUTURE GROWTH

Vinh Quang Le, Chee Chuong Sum, Quang Huy Vu, and Ich Tuan Hoang wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In June 2017, during a break in a strategy meeting, Quang Huy Vu was lost in thought as he looked away from the meeting room toward the shop floor of his company, TEKCOM Corporation (TEKCOM). Vu, who was TEKCOM’s chief executive officer, had good reasons to be proud of his company’s achievements. Established in 2005, TEKCOM had moved from being an import company distributing construction materials for the domestic market to becoming a leading manufacturer of film-faced plywood (FFP) in Vietnam. TEKCOM was one of the largest Vietnamese manufacturers of FFP, with an export market share of 55 per cent. For over two hours, the TEKCOM board of directors had deliberated intensely on the future of TEKCOM, with no clear consensus.

The business environment in Vietnam had changed and new opportunities were beckoning. As a high performance company, TEKCOM was determined to grow. From 2013 to 2016, TEKCOM had seen annual average growth in both revenue and gross profit, at 50 per cent and 73 per cent, respectively. Expansion opportunities for FFP still existed in Vietnam, but its growth was expected to plateau over the next three to five years. Entering new markets with new products would enable TEKCOM to grow, but the payoff was uncertain. TEKCOM’s challenge in securing raw materials for FFP production was becoming critical. Obtaining raw materials was a major factor in determining growth in this industry. As Vu walked back to the meeting table, he wondered whether TEKCOM should focus on improving its current core FFP offerings or seize the opportunity to enter new markets with new products. The risks and trade-offs involved in pursuing either option could be drastic and complex. He would need the advice of his senior colleagues to reach the right decision.

Background of TEKCOM

In 2005, Vu and two partners founded Ky Thuong Company Limited (Ky Thuong), a trading company for insulation products in Vietnam. A new trading line of imported FFP from China was added in 2007 for the Vietnamese market. In 2010, Vu and Ich Tuan Hoang merged several Ky Thuong entities and called the new joint-stock company TEKCOM Corporation. Business was brisk, and TEKCOM experienced double-digit growth from 2005 to 2011.

By 2010, 95 per cent of FFP used in Vietnam was imported from China, primarily for the construction industry. Sensing the growth in demand for higher quality FFP to support the local construction boom, the founders decided to venture into FFP production in 2011. Raw materials for making plywood were not readily available, and there were only two plywood manufacturers in Vietnam. Therefore, a key supporting strategy was identifying and cultivating a supplier base of raw materials.

Investors were initially concerned with TEKCOM’s ability to transform from trading company to manufacturer. The transition period was indeed difficult. TEKCOM encountered low labour productivity, supply disruption, high inventory, and long lead times. However, with discipline, teamwork, and the mindset of an organization eager for learning and continuous improvement, TEKCOM gradually stabilized production and expanded capacity. From 2013 to 2016, production capacity for FFP increased 10-fold from 12,000 to 120,000 cubic metres. In 2016, TEKCOM’s total sales reached US$30 million,[[1]](#footnote-1) with domestic and export markets accounting for 30 and 70 per cent, respectively. The founders attributed TEKCOM’s success to its core values of determination, integrity, teamwork, and collaboration.

Wood Products Value Chain

From wood logs (timber), three categories of wood raw materials could be derived: sawn timber, wood chip, and veneer (see Exhibit 1). Wood logs could either be hardwood (e.g., mahogany, birch, oak, teak, or rubberwood) or softwood (e.g., cedar, pine, redwood, or spruce). Veneer was the main raw material for plywood manufacturing.

Although Vietnam had large forests to support the manufacturing of wood products, local businesses found it difficult to compete with foreign rivals due to Vietnam’s highly fragmented, wood-product supply chains. Disjointed supply chains led to high logistics costs and protracted lead times. More than 90 per cent of local wood-product manufacturers were small- and medium-sized enterprises. Most wood-products manufacturers produced raw timber and low-value furniture products for export. Plywood manufacturing constituted only a small percentage of total wood-products manufacturing. Most plywood manufacturers produced low- to mid-range quality plywood for construction applications. Furniture and flooring products required high quality plywood, such as fancy plywood (FP), which was not readily available in Vietnam. Therefore, manufacturers had to import plywood from overseas suppliers.

More than 70 per cent of local wood logs were exported as veneer, sawn timber, or wood chip. Of the remaining 30 per cent, very few were used to make veneer. Therefore, local plywood manufacturers such as TEKCOM found it difficult to source local veneer.

Plywood

Plywood was commonly categorized by its ability to resist cracking, shrinkage, splitting, twisting, and warping. Plywood could be made from softwood or hardwood veneer. Depending on intended use, plywood was coated on the surface to give it special properties. For example, FFP was commonly used in construction and covered with a special film to increase strength and waterproofness. Other plywood products, such as melamine-faced plywood and FP, were used to make furniture and flooring.

With shifts in the global economy, plywood production had moved to new emerging countries due to favourable production costs and increased domestic demand for plywood. Most plywood was manufactured in Asia-Pacific countries such as China, Indonesia, and Malaysia. Tropical wood species were used as the main raw material in Asian plywood production. China was the world’s largest manufacturer of plywood. European manufacturers tended to focus on producing high-end plywood. The availability of a skilled workforce and large amounts of high-grade plantation forests (in terms of size, knots, surface smoothness, and other factors) in countries such as Finland and Russia were key to advancing the plywood industry in that part of the world.

High-end plywood commanded high prices and generated high returns. Korea, the Middle East, and Europe had leading plywood markets, where environmental impact was an important buying factor. For example, these markets only purchased plywood with low formaldehyde emissions for flooring and furniture applications. To enter developed markets, plywood manufacturers had to provide certifications on quality, supply sources, and production information.

Veneer

Most veneer producers in Vietnam were small family businesses. Due to a lack of regulations and forest management knowledge, wood-log plantation owners experienced variable harvest size and output quality, creating problems for veneer producers in classifying and controlling raw material for plywood manufacturers.

Veneer consisted of thin slices of wood, usually no thicker than 6 millimetres (mm). Veneer was obtained by peeling the trunk of a tree or slicing blocks of wood. Because the makeup of the wood log varied from the surface to the core of the trunk, the peeled veneer would have slightly different properties, creating different qualities of veneer. After peeling, the veneer slices were classified into A, B, and C grades and dried. Veneer was graded on criteria such as size, smoothness, surface quality (i.e., holes or knots), and colour. Multiple layers of veneer were glued together to make plywood. The plywood production process was labour-intensive and required long lead times for pressing, trimming, sanding, film overlay, and finishing (see Exhibit 2).

Two major considerations in veneer manufacturing were production yield and wood waste utilization. Veneer production yield referred to the percentage of the timber log that could be turned into usable veneer. The remainder of the log, or wood waste, could be sold to companies to make wood chip products. Otherwise, veneer producers would have to incur costs to dispose the wood waste.

TEKCOM’s Veneer Suppliers

TEKCOM bought veneer from local suppliers in the Binh Duong and Dong Nai provinces. The proximity of these suppliers to the TEKCOM factory helped reduce transportation cost. Most of the veneer supplied to TEKCOM was made from hardwood logs, usually rubberwood. Suppliers sold mostly grade A and grade B veneer to TEKCOM and grade C to other plywood producers. TEKCOM used grade A and grade B veneer to make mid-range FFP, whereas grade C veneer was used to produce regular FFP, which commanded lower prices and offered lower profitability.

TEKCOM was a preferred veneer customer for two reasons. First, it provided an attractive purchase policy, where long-term contracts were signed for the purchase of grade A and grade B veneer with short payment terms. Second, TEKCOM had a good supplier development program, where TEKCOM provided training to suppliers’ workers and worked with suppliers to improve their management processes. TEKCOM also worked with local banks to support suppliers to upgrade their veneer production facilities.

Because wood logs were limited, veneer suppliers competed aggressively to secure raw materials, which in turn pushed up the price of veneer. Rising veneer prices posed a great challenge for TEKCOM operations and needed to be a key factor in future strategy formulation. To mitigate high veneer prices, TEKCOM could raise FFP prices, but this would price TEKCOM out of its markets.

TEKCOM’s Markets

Although FFP came in several different categories, TEKCOM offered two variations—mid-range FFP and regular FFP—and sold its product to distributors. In both domestic and overseas markets, TEKCOM’s FFP was better known in the mid-range segment because of its higher quality in durability and reusability. TEKCOM avoided the premium FFP segment, despite its higher margins, because making premium FFP required high-grade veneer, which was in scarce supply in Vietnam. In 2016, TEKCOM accounted for 20 per cent of the FFP market share in Vietnam. TEKCOM’s FFP products were also sold in overseas markets such as Turkey, the Middle East, and South Korea (see Exhibit 3). Entering export markets required high levels of quality, safety, and environmentally-friendly practices. Therefore, TEKCOM worked with independent test organizations to obtain certifications such as ISO 9001[[2]](#footnote-2) and EU certification[[3]](#footnote-3) of conformity to verify TEKCOM’s use of eco-friendly production practices and responsible forest management.

TEKCOM products were widely trusted. Although an anti-dumping tax was imposed on many plywood companies in China and Vietnam, TEKCOM was spared because it worked with legal representatives in export markets to provide full information and disclosure to prove that its products were genuinely made by TEKCOM. This enhanced TEKCOM’s competitiveness in export markets.

TEKCOM was also an original equipment manufacturer for customers in South Korea and the Middle East, which helped TEKCOM not only expand its scale of production and lower production cost, but also increase its competitiveness through product and process innovation and market familiarization. TEKCOM also provided value-added services to its customers. Although most FFP manufacturers offered two main FFP sizes (i.e., 1,250 × 2,500 mm and 1,220 × 2,440 mm), TEKCOM could deliver FFP to meet specific size requests from customers. This saved customers time and effort to post-process the delivered FFP.

Challenges and Opportunities

A major challenge for TEKCOM was the rising cost of veneer, due partly to limited sources of wood logs—70 per cent of Vietnam’s wood logs were exported. In addition, recent developments had further reduced the availability of rubber trees for wood log, which was TEKCOM’s main source of veneer.

TEKCOM’s veneer suppliers, who had bought rubber plantations in the southeast and highland areas of Vietnam, earned income either by harvesting latex from rubber trees or by cutting down rubber trees for wood log. From 2013 to 2016, global oversupply and limited storage capacity caused natural rubber prices to fall steeply, and farmers cut down rubber trees to sell as wood log. During that period, prices of rubberwood were relatively low, and plywood manufacturers using rubberwood veneer gained advantage from the low cost of raw material. By mid-2016, however, most farmers had began to run out of rubber trees that could be harvested as wood log. The suppliers also wanted to keep some rubber trees to hedge against a future rise in demand for latex.

Both issues worked together to create a reduction in the supply of rubberwood logs. TEKCOM’s supply problem was also aggravated by increased competition from overseas buyers to purchase wood logs and veneer produced in southern and central Vietnam, who used these raw materials to make a wide range of wood products.

One strategy that TEKCOM adopted to cope with the limited veneer supply was to redesign production processes to make better use of all grades of veneer. Improvements to the production process allowed TEKCOM to use some grade C veneer to make FFP of a similar quality to grades A and B veneer. This strategy improved the production yield of high quality FFP, but it was still not enough to mitigate the general shortage of veneer supply.

TEKCOM also looked for new sources for the supply of raw materials. With the scarcity of rubberwood, TEKCOM considered making veneer from the Acacia Auriculiformis tree, which grew in abundance in the Mekong Delta region. However, the veneer manufacturing industry in the Mekong Delta was not well developed. Most wood-product manufacturers there focused on wood-chip and sawn-timber production. Therefore, the bulky Acacia Auriculiformis trees would have to be shipped from the Mekong Delta to Ho Chi Minh City in barges, and from Ho Chi Minh City to Binh Duong in trucks. This additional transportation raised the cost of making veneer. TEKCOM considered building an FFP factory in the Mekong Delta, near the sources of the wood log supply, but the lack of veneer manufacturers and suitable labour posed major challenges. Veneer made from Acacia Auriculiformis also tended to be of lower quality. There were also some veneer sources in northern Vietnam, but their veneer had more defects and would result in a lower plywood production yield.

TEKCOM also considered augmenting local sourcing with overseas supply. Being larger and better organized, overseas suppliers from Europe, Russia, and the United States offered higher quality wood log, from which higher quality veneer could be obtained. Grade C veneer from wood imported from these countries was easily as good as grades A and B veneer from local suppliers. Plywood production yields were also better. However, importing veneer was expensive. Another option was to vertically integrate by importing wood logs and making veneer in TEKCOM. Initial cost analysis, however, showed that the higher production yield generated from making veneer this way was not enough to compensate for the cost of importing wood logs and equipping facilities to make veneer (see Exhibit 4). More importantly, this option would divert TEKCOM from its core competency in FFP production and would require TEKCOM to build new capabilities.

Another challenge TEKCOM was facing was the saturation of domestic demand for FFP. The growth projection of the FFP market in Vietnam over the next three years did not align well with TEKCOM’s growth target, especially with the presence of FFP competition. With 70 per cent of total revenue coming from exports, TEKCOM could step up its efforts to expand into existing and new overseas FFP markets. Overseas FFP markets were expected to grow steadily, but without a stable and reliable veneer supply base, it was difficult for TEKCOM to increase production and expand sales.

TEKCOM noticed that markets for certain plywood applications like furniture and flooring had been growing rapidly in Vietnam. However, these applications used FP made from high-grade veneer, which was available only from overseas suppliers and required automated production processes that TEKCOM did not have.

A March 2017 incident had forced TEKCOM to seriously review its corporate and market strategy. A sudden surge in back orders, triggered by a shortage of veneer, had rattled several of TEKCOM’s key customers. Normally, back orders could be filled by running the factory at full capacity over a specific period. However, the factory’s supply of veneer at the time was so low that it could only operate at a maximum of 50-per-cent capacity. The build-up of back orders was the worst case that TEKCOM had seen in years. Some key customers were so upset that they complained directly to Vu and threatened to take their business elsewhere. Vu realized that the recurring problem of supply disruption required a fresh look and a more robust solution. Because veneer supply was related to the larger issue of growth and sustainability, Vu decided to gather senior management to review its strategy and deliberate on how TEKCOM should move ahead.

The first strategy meeting was a brainstorming session. Vu raised the possibility of using market and sourcing diversification to mitigate the reliance on local veneer suppliers. Marketing representatives suggested entering the new premium FFP segment in current markets, where profit margins were higher. The idea was opposed by the Research and Development and the Operations departments, who felt that the order-winning criteria of these markets required TEKCOM to incur additional investment in research and development and acquire more sophisticated production processes and controls, including a requirement for special veneer (e.g., veneer made from birch) from overseas suppliers. Conforming to these standards would take time, and it was unclear if the higher margins could offset the higher production costs. Operations representatives suggested that TEKCOM should continue to do what it did best—make FFP to serve its current markets. Operations would continue to improve on its production process to increase yield from grade C veneer and look for new veneer sources within Vietnam and the region. Furthermore, market consolidation of local FFP players was likely to happen, which could allow TEKCOM to increase market share.

Vu and the business development department pointed out that it might be an opportune time for TEKCOM to venture into new markets and new products, namely FP and medium-density fibreboard (MDF). The FP and MDF markets were already large and continuing to expand, compared to the FFP market, and the FP and MDF margins were relatively more attractive. Operations representatives raised the concern that FP production required high-grade veneer that could only be sourced from overseas suppliers, and would require some automation. MDF production would need an enormous amount of investment in automated production processes. TEKCOM currently focused on labour-intensive operations, where it had an advantage in understanding and managing local workers. There were already some companies in Vietnam with large-scale MDF operations who had extensive experience in automation, so it would take TEKCOM a long time to catch up to the competition.

The first strategy meeting ended with more questions than answers. More meetings were planned to help resolve these questions.

THE PATH FORWARD

A few meetings later, in June 2017, Vu was looking to his senior colleagues across the large mahogany table for advice. Knowing the TEKCOM culture, he was aware of the need for buy-in from senior management to influence the rest of the company. He had earlier argued that TEKCOM would need to move beyond a single-product strategy to sustain growth. Entering the FP market, with its higher margins, could be a good start for TEKCOM to develop its capabilities of introducing new products in new markets. He was aware that TEKCOM’s experience was based only on FFP production. Therefore, selling and producing new plywood products was a risky proposition. He was also unsure if TEKCOM could develop the engineering expertise needed to reconfigure its production processes for the manufacture of FFP and other new products. Given the risks, Vu wondered how he could convince the investors that this was the right strategy for the company. What if it took so long to build up internal capabilities that the markets changed? How could TEKCOM ensure that it could compete in markets with well-established manufacturers? Could TEKCOM’s culture embrace change? The status quo seemed unsustainable and likely to limit growth. So, how should TEKCOM proceed?

Exhibit 1: Wood Products

Plywood applications:

- Construction

- Transportation

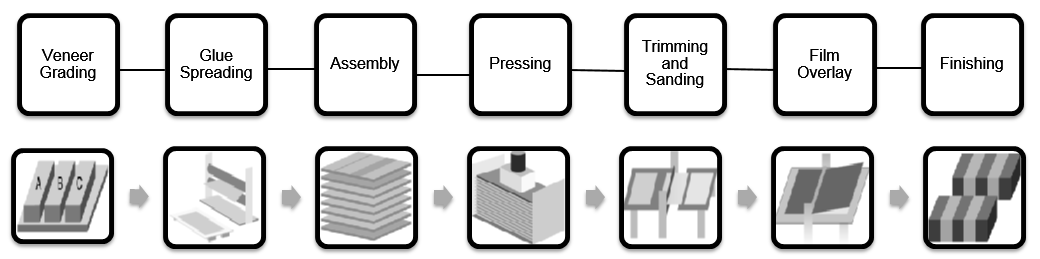
- Furniture

- Flooring

- Packaging

Source: Company files.

exhibit 2: Production Process for Film-Faced Plywood



Source: Company files.

exhibit 3: TEKCOM’s Markets

Distribution of Markets (in Percentage of Revenue)

|  |  |  |  |
| --- | --- | --- | --- |
| **Market** | **2015** | **2016** | **2017 (estimated)** |
| Vietnam | 44.8 | 34.5 | 36.1 |
| Turkey | 32.5 | 26.3 | 26.5 |
| South Korea | 3.6 | 22.7 | 17.0 |
| Middle East | 13.4 | 6.1 | 7.1 |
| Other Markets | 5.7 | 10.4 | 13.3 |

Market Share

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Market** | **2015** | | **2016** | | **2017 (estimated)** | |
| **Volume (m3)** | **Market Share (%)** | **Volume (m3)** | **Market Share (%)** | **Volume (m3)** | **Market Share (%)** |
| Vietnam | 55,942 | 22.0 | 30,700 | 19.0 | 39,000 | 17.0 |
| Turkey | 15,143 | 6.0 | 22,200 | 8.0 | 28,600 | 10.0 |
| South Korea | 1,702 | 1.0 | 18,800 | 10.0 | 16,800 | 10.0 |
| Middle East | 5,436 | 0.5 | 4,968 | 0.4 | 6,567 | 0.6 |

Note: m**3** = cubic metre

Source: Company files.

Exhibit 4: Raw material and product information

Purchase prices and production yields

|  |  |  |  |
| --- | --- | --- | --- |
| **Option** | **Item** | **Source** | |
| **Local** | **Overseas** |
| Buy veneer | Purchase price (veneer) | $170 per m**3** (rubberwood) | $360 per m**3** (birch) |
| Make veneer from wood log | Purchase price  (wood log) | $50 per m**3** (rubberwood) | $150 per m**3** (birch) |
| Production yield  (wood logs into veneer)\* | Approximately 49% | Approximately 60% |
| Production yield  (veneer into FFP)\*\* | 83% | 85% |

Note: All currency amounts are in US$; m**3** = cubic metre; FFP = film-faced plywood; \* percentage of wood log, on average, that could be turned into useable veneer; \*\* percentage of veneer, on average, that could be converted into FFP

Selling prices and margins

|  |  |  |
| --- | --- | --- |
| **Product** | **Average Price** (per m3) | **Gross Margin (%)** |
| Regular FFP | $420 | 10 |
| Mid-range FFP | $460 | 16 |
| Premium FFP | $500 | 22 |
| Fancy plywood | $600 to $700 | 25–30 |
| MDF | $300 | 30–35 |

Note: All currency amounts are in US$; m**3** = cubic metre; FFP = film-faced plywood; MDF = medium-density fibreboard

Source: Company files.

1. All currency amounts are in U.S. dollars unless otherwise specified. [↑](#footnote-ref-1)
2. “ISO 9001 Family—Quality Management,” International Organization for Standardization, accessed June 1, 2018, www.iso.org/iso-9001-quality-management.html. [↑](#footnote-ref-2)
3. “EN 13986 : 2004 +A1:2015 Wood-Based Panels for Use in Construction–Characteristics, Evaluation of Conformity and Marking,” APA, accessed June 1, 2018, https://apawood-europe.org/official-guidelines/european-standards/individual-standards/en-13986/. [↑](#footnote-ref-3)