

Contents

Figures	xi
Preface	xiii

Chapter 1

The Great Industrial Complex.	1
Market Players	3
Owners, End Users, and Operators	3
Engineering, Procurement, and Construction	11
Process Licensors	12
OEMs, Packagers, and Manufacturers	14
Service Providers	16
Project Stages	16
Technical Specifications	18
Commercial Contracts	21
Markets	23

Chapter 2

Reading the Market	27
Product and Portfolio Management	27
Customer Input and Feedback	30
Product Positioning	33
Competition	34
Idea Generation and SWOT	38
Business Plan and Analysis	41
Cost and Price Targets	42
Product Management Process	43
Product Launch and Field Testing	45
Manufacturing Requirements	47
Commercialization	48
Branding and Design	50
Communications	52
Product Life Cycle and Obsolescence	54

Chapter 3

Critical Setup: Engineering 57

Customer Service and Project Management 62

Chapter 4

Key to Happiness: Service 67

Service and Maintenance Support 67

 Documentation 69

 Erection and Commissioning 71

 Technical and Field Troubleshooting Support 72

 Technical Training 73

 Maintenance, Repair, and Overhaul 74

 Remote Monitoring and Diagnostics 75

 Operational Contracts 77

Chapter 5

Tip of the Sword: Sales 79

 Education 79

 Ethics 80

 Multi-Cultural 82

Sales Tools 86

Product Knowledge 87

 Power and Efficiency 88

 Applications and Experience 91

 Size, Weight, and Utilities 92

 Interface and Installation Engineering 93

 Reliability and Maintenance 94

 Emissions, Safety, Legal, and Local Requirements 97

 Budgetary Pricing 99

 Delivery 99

 Retrofit or Debottlenecking Capability 100

 Training 101

Competitor and Customer 102

Sales Meeting Preparation 107

 Sales Presentations 107

 Sales Meeting Agenda 110

 Sales Dialogue 111

 Body Language 112

Chapter 6

Cutting Edge: Proposals 113

Proposal Process 114

 Go and No-Go Budget Proposal 114

 Bid and No-Bid Firm Proposal 115

 Risk Review and Executive Approvals 115

Order Handover Kickoff	118
Win/Loss Analysis	118
Proposal Elements	119
Equipment Design Concept	119
Scope of Supply and Exclusions to Scope	122
Technical Comments and Exceptions to Specification	123
Technical Data Sheets and Drawings	124
Commercial	124
Economics and Value Propositions	128
Project Execution Concept	130
After-Sales	130

Chapter 7

The Perfect World: Operations	133
Capacity Issues	135
Processing Orders and Change Orders	136
Engineering Errors	137
Poor Quality and Late Delivery	139
Machining and Assembly	140
Packing, Preservation, and Shipping	141
Logistics	142

Chapter 8

Grow the Business: Strategy	145
Planning	145
Forecasting	148
CRMs and KPIs	151
Growth	152
Mergers and Acquisition	155
Growth Strategy and Execution	158
Human Resources	163
Training	163
Compensation	166
Performance Reviews	168

Chapter 9

Conclusions	171
Definitions	173
References	175
About the Author	179
Index	181

delivery just increased. However, early delivery will only bring a benefit in a large project if the item is on a critical path, i.e., all other material and labor are or will be available in time. Otherwise, your equipment will just be stored in a warehouse until such time as it is needed. Critical are large, complex assemblies such as rotating equipment, but also unique parts and materials, spare parts, personnel availability, and service. Not only is early delivery critical, but on-time delivery as promised even more so. Imagine a large offshore project where a platform is built onshore in the module or shipyard. Thousands of deliveries and hundreds of personnel are being fed with a complex series of deliveries from hundreds of manufacturers— and then one item on the critical path is late by weeks or months. That means the End User will incur a sizeable cost overrun for labor and equipment rental, and will naturally suffer production penalties. Therefore, your company's proven ability and track record to deliver early and on time is critical. If your competitor cannot or has not done so, it is wise to let the purchaser or End User project manager check out the risk.

Documentation in this world can be critical too, especially when there is an EPC involved, tasked with the integration of the equipment, or an inspection or approval agency that needs information to complete their work. Just as much as on the hardware side, "soft" engineering information needs to fit into a complex work schedule and delivery program. Any delay means a team of engineers on the customer side has to work longer (even if the person is just waiting), charge more hours to the project, and provide yet another opportunity to delay the project schedule. Having an organization that has some of the information pre-engineered and can therefore react faster is an advantage. This pre-engineered documentation, however, does have to comply with complex and extensive information requirements; I have seen companies struggle to adopt a pre-engineering approach with a customer that requires a lot of one-off customized information.

Retrofit or Debottlenecking Capability

Some products can be upgraded after initial operation. If that is true with your products, you should be able to sketch out time and money and what production benefits can be gained. This can be a distinct advantage over a competitor's equipment if they do not have a similar capability. This is a favorite tactic, especially in aftermarket and service for gas turbines, where improvements in power and efficiency over the course of a product life are considered common. It may be easier to upgrade than replace an entire existing unit with a brand-new unit. In other areas, such as with centrifugal compressors, the approach can be to provide a casing where the aerodynamic internals can be swapped or designed for a future operating case. This may require a little more investment up front to make the casing large or long enough, but makes the future expansion all the more affordable and feasible.

I sold a gas turbine compressor pipeline set to Canada, where the production profile required very little horsepower at first and a significant increase later in life due to a variable production profile. We were able to reduce the overall project CAPEX by providing initially a smaller gas turbine that was optimized for initial operations, but which could be upgraded later during a regular major maintenance event, keeping the same package and swapping the smaller turbine out and inserting the slightly larger one in, keeping everything else the same. By installing a few extra items up front, we made the retrofit go smoother later. It was a winning argument. The competitor could not follow the same approach as they had two distinct different gas turbine models and packages for this horsepower bracket that had no parts commonality.

Training

Many engineered-to-order products or systems require specialized customer training to understand the equipment and to specify it correctly. Training is most certainly required to install and operate complex equipment. If your market regularly requires that of your product, you need to be able to offer a training plan.

Customer training is a great sales tool and can take several different forms. So-called lunch and learns can be provided that last one to two hours at the most, don't take billable hours away from the customer or engineering company, and attract a whole host of people who want CEUs and something to eat. It is a great way to expand the level of contacts with a customer group and raise the level of your company's awareness with them. Make sure that there is some real technical content, not just an advertising presentation.

More formal, multi-day courses can and should be arranged, geared towards specification or operation of equipment. Some companies charge for this service and offer it only in central locations. This restricts unduly the number of people who will attend. In my opinion, it is much better to offer a low or zero cost training where the location may rotate around several customer hubs. This is a very effective marketing route that is often overlooked. Conducting frequent training not only provides more contacts to salespeople and lets them find out about customer activities, but also trains your own salespeople and provides another avenue for product managers and marketers to get feedback. Overall, it does many things right, so why wouldn't you offer it for free?

Informal education can naturally flow into every conversation with your customer when you discuss application and previous experience. People have a strong desire to learn and apply knowledge, so it is wise to coach your contacts.

Competitor and Customer

The salesperson has to look at all the criteria mentioned above and be able to do the same analysis for the top competitor's equipment. Information is probably not as complete as for your own product, but it helps to understand in a critical fashion comparative strengths and weakness. However, be careful using this information. You will lose respect and no longer be an objective advisor if you even name or bad-mouth your competitor or make untrue or exaggerated statements. You should always protect your own integrity and that of the company you represent.

In a unique way this went wrong for one of my competitors in a meeting with an offshore O&G customer in Asia. We were breaking into an offshore oil field that we hadn't been present in. Two of our competitors in a joint venture owned the customer and geography, so this was an uphill battle. But the competitor was getting complacent and was trusting his reference situation too much and his relationships to carry him through, regardless of price. We were getting attention due to our better technology that offered slightly smaller equipment at the same production and therefore a lower cost. The competitor lashed out behind the scenes that we as a company had no references for gas-turbine-driven compressor sets of a similar size, even going so far as to provide so-called customer testimonials that our equipment elsewhere wasn't working properly. The customer then showed us these written statements, allowing us to comment. It was certainly a dangerous situation that could have defeated us if only the information had been true. However, we had several nearly identical units working for fifteen years with a major O&G company in the North Sea, which must have slipped our competitor's mind. It was therefore easy to expose the lies and forgeries for what they were. Our competitor lost complete trust and was not heard of again on the project. The customer advocate for the competitor also publicly lost trust in front of his own colleagues, so he kept quiet too.

Studying competitor websites, financials, latest business orders, brochures, published articles, and papers is a good start for your research. Checking out the competition at conventions and exhibitions is always a must. Many people within your company, like the product or marketing manager, will have deeper knowledge that they can share—or at least they should. More important clues can be gained by talking to customers and consultants or visiting plants where their equipment is installed and engaging operators in a conversation. One has to be diplomatic going about this, but if you are discreet, you will learn a lot that will help you be successful.

The sales force owes its very existence to the customer. In that sense, there is nobody more important. In Chapter 1 The Great Industrial Complex, we introduced several different types of customer organizations. We will drill down into the different layers within the customer organization and how to address them.

Whether representing a manufacturer who supplies a part or assembly or an OEM, there are many different interactions at many different levels involving interesting dynamics. A key top-tier supplier should be able to access the OEM's Executive Management and most other management functions. This includes Operations, Engineering, R&D, Testing, Quality, Supply Chain, Warranty, Marketing, and Sales as well as Service. A salesperson trying to interface with all levels of an organization may easily become the bottleneck in a close relationship. A more common and more successful setup is for the salesperson to guide a cross-functional team to share the load and also facilitate more effective communication under the coordination of Sales. I have seen it to be quite successful to allow engineering to interface with engineering, and customer service with the buyer on routine product and order handling matters, especially when a permanent team is in place where the same names and faces consistently interact with each other. This improves efficiency by eliminating friction and allows for team building. The account manager does not have to be the bottleneck here for day-to-day business. It is important that the account manager is well-informed and manages the process, influencing decisions as well as communication carefully at the interfaces to both companies. This cannot be a free-for-all but a closely coordinated team. In this setup, the account manager becomes the ambassador of the business. At an executive level, it is advantageous to have the leaders of the business interact; however, this requires strict prepping and some serious discipline. Be aware that executives, when under direct pressure, are more likely to make unnecessary concessions face to face with the customer than back at head office. It is also necessary for communication to be a two-way street. The executive has to bring something of value for the customer, not just sit and listen. At the same time, if there are problems, the executive has to be prepped as to what the correct solution is that the account manager or team recommends.

In a true-life story, I worked in a regional customer-facing role for a CEO with global responsibilities. He requested a meeting once a year formally with the five top customers in my region. We found a suitable venue offsite at a major industry conference to talk. These meetings started out well with the CEO listening to what the customers wanted, and we agreed to yearly follow-ons. This soon petered out when the customers figured out that the CEO was not interested in solving the higher-level global strategic questions.

This same CEO liked to take matters often into his own hands. Our regional team was meeting with our top account, negotiating and working through several topics on engineering, logistics, and sales, when the customer stood up and declared that our meeting was coming to an end as our CEO from overseas had arrived and other discussions would be carried out directly with him. We were stunned as no previous announcement had been made internally that another meeting would be taking place in parallel. The CEO incidentally had a completely different agenda, one that failed as he didn't take council with the regional and account management team concerning his own key negotiation items.

Figure 20 shows the outline of a typical Zipper contact chart. If your business does not have significant month-to-month business with the customer, then a strongly simplified structure may be more appropriate—maybe just at an account manager level only.

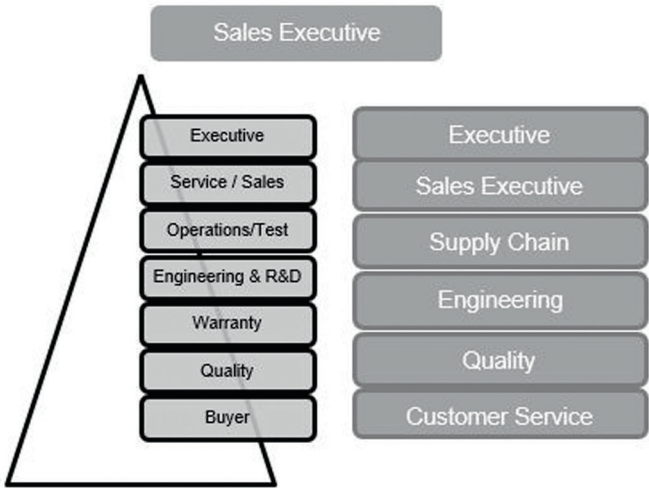


Fig. 20. Customer & Supplier Interface Zipper Chart

The customer is also a multifaceted organization. Many people play a wide variety of functions, as we have seen, and have different motivations as they have different goals to achieve. No company is perfectly aligned everywhere. The players receive their motivations not only from the roles they play in the organization, but also the specific goals they receive every year upon which their bonus hinges. It is important to recognize as salespeople where you can bring which issues and how to prepare the right kind of arguments to bring to the right people to get support.

At the base of the pyramid, we see the roles performed where the buyer can talk about price and delivery according to specification. You typically cannot talk to a buyer about the environment or quality or engineering features or brand. The buyer or procurement agent gets his or her instructions from the head of procurement and from other departments within their organization. These “technical” project-related issues can only be modified or changed by the department in charge of that subject matter. This is the level where many sales organizations stop. If that is your organization, then clearly your salesperson needs some more training.

Engineering is the technical counterweight of procurement. Engineering has quite some strength as the product specification lays down what the buyer needs to procure. So even if not a manager of engineering, the engineer is in a position

of partial authority over the buyer; they are in a sense a little higher in the food chain due to their informal authority. This is the person you need to talk to about specifications and design. You should ideally do this before commercial negotiations start. The engineer also has needs that have to be satisfied. Engineers are heavily involved in documenting designs. Any change creates a lot more paperwork in engineering and drafting. If hours are logged, then there is a documented cost. Anything you can do to bring that cost and effort down will win the support of the engineer. A new vendor, a new design will create some resistance in engineering as it introduces additional work.

Quality is a standard that you either pass or you don't. You have to fulfill the basic check-in-the-box minimum requirements in terms of approval. Yet Quality can be more work too and require more effort. Qualifying a new vendor or product is one of those activities. Be aware of that when you offer brand new products from possibly new factories. Cost of Quality is another issue, and should you or your competitor be consistently higher in quality costs than expected, a recommendation will probably go out to rectify the situation or switch vendors.

Project managers in any engineered-to-order project are typically strong and decisive payers. They have to preserve budget, risk management, and delivery, so they will come out swinging for you if your proposal fits nicely or against you if they sense a problem. Make sure you are not part of the problem, and do not get objections here.

Your customer's marketing and sales departments are great places to go early in any project. They do not make the direct buying decision, but if they can be more successful with your product, they will do everything they can to ensure they get their bonus or commission. They can be a formidable ally.

Operations may have a vote, and they certainly have an opinion concerning your product. If your product focuses on ease of assembly or more efficient operations or lower maintenance cost, you need to focus that message here. Don't talk price or delivery unless you have to. That wouldn't be Operations' primary concern.

Figure 21 shows a typical customer decision pyramid. Note that while the relative strength of a decision maker increases towards the top, not all of them will be engaged on a project and sometimes informal authority will override formal authority.

Senior Management and Finance are areas very concerned about KPIs and company divisional and departmental goals. If your products or services can move the meter, this is the level you want to go to, assuming you know what these goals are. This level of management can see beyond the tactical blinders that individual departments and employees may have, see the bigger picture, and can make decisions and deploy appropriate resources.

The Chief Executive Officer or President is a position that should not be approached lightly. You have to bring something of significant value, an opportunity

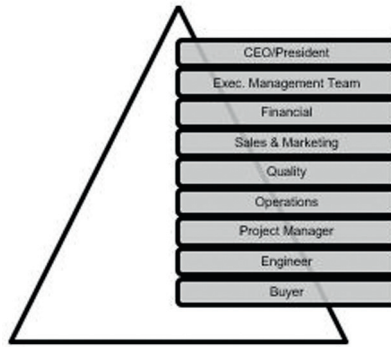


Fig. 21. Customer Decision Pyramid

that makes a difference at the company level. The CEO is not likely to take an interest if you want to complain about the buyer or engineer, so don't even attempt it. An area where a CEO might take a strong interest next to company results is reputation and social standing. If your proposal potentially provides a boost or prevents a loss in these areas, a short conversation may well be in order. If you do this, you may want to bring a higher authority along from your company too, to match the status and provide an extra boost and authority to the message.

Whichever route or routes you choose, you will always need to find the project champion and, conversely, the project assassins. Who will be active and stick their neck out and support your product or services, and who will do their best to shoot you down and lay obstacles in your way? In order to predict that, you should have a good idea of the decision-making process and dynamics in your customer's organization. This is not easy to do and very dynamic, but a good understanding is required if you are going to steer sales progress. Here, relationships are key.

A complex LNG project I was involved with was located in Africa. This was a fine setting regarding how to play different parts of the organization and different organizations against each other for a win. The EPC in Houston had accepted a lump-sum turnkey project award from a major US oil company who was in partnership with the national oil company in that country in Africa. The EPC was motivated to keep the costs low, as everything was coming out of their own budget. The EPC knew we had a package design for a power plant that would substantially reduce their procurement and installation costs, and it had been proven before.

The US major had alliance procurement agreements with our competitor. The US category manager for rotating equipment was going to get a bonus check every time he exercised the alliance agreement with his only approved supplier. He marked both the engineering and procurement roles with the US End User in one person. This was totally above board and legal in the US. We identified him early on as our project assassin.

We had strong support commercially and technically with the EPC, as we had a proven offering that reduced engineering hours and material costs. We communicated with the EPC frequently, not only to support our position actively but also to monitor the US End User's objections and the progress of project evaluation. The US major nearly disqualified us technically, but we managed to hang on. We were then able to access the African oil company project manager and executives and highlighted the dilemma in that the US major threatened to purchase more expensive equipment on a sole source basis, which is illegal according to the laws and practice of that African nation. We received the order for the 100 MW power plant.

Sales Meeting Preparation

There are quite a few things that can be done before a sales meeting. If this is your first meeting, you want to be well-prepared, but even if you have known the customer for a long time, you want to be sure you are up-to-date and well-versed on the latest developments.

Nowadays, this is fairly easy to do. Searching company web sites and even reading investor recommendations are easy to do. Don't hesitate to collect online presentations and so-called white papers on the latest proceedings that are of interest. Armed with this information, it is easier to ask open questions about what is going on and what help they need. Be aware the customer may do the same kind of research in reverse on your company and yourself.

Linkedin, XING, or other business-oriented social media sites are a great resource. Connect to people, learn their background, what they post, and, most importantly, what common connections and interests you have.

Know the customer's industry by going to industry fairs, conferences, exhibits, and lectures. Keep tabs on their competitors and markets, and try to interface with other manufacturers to the customer that you do not compete with. These other manufacturers may be aware of many of your project details that the customer may be reluctant to share with you directly. At least as important in the engineered-to-order business is to find out what projects are being implemented or contemplated for the near future. There is usually information online regarding what your potential customer is up to. In some instances, government web sites are great sites to scroll for projects where permits are required. This provides plenty of conversation and allows you to ask pointed, specific, and direct questions.

Sales Presentations

Bring along the material that you need. A few years ago, that would have meant pictures, drawings, specifications, presentations, reference letters, and brochures as print-outs. Nowadays, most people want to see the information electronically.

(Many engineers sitting in cubicles no longer have a lot of traditional filing space.) Be careful to separate public from confidential information, and information should be provided in PDF formats that are not easily converted or edited. Assume that any electronic information will be disseminated to people you do not know. Once it is outside of your control, you don't know who might see it, even your competitor.

Bringing a laptop or tablet along for presentations is quite common nowadays. Ensure that you have several different connectors to electricity, especially if you travel to foreign countries, and to the projector or TV (VGA, HDMI, USB, etc.). Learn how to cope with different systems and resolutions ahead of time. Bring plenty of printed business cards and a USB stick or other storage media to leave with the customer just in case. Note that some companies have restrictive policies concerning the upload of data in their system, so ask what the best approach is. For videos, using a separate speaker for the laptop is helpful as it carries the acoustic better in a typical conference room than the usual built-in speaker. Make sure everything is charged and tested. A green laser pointer works on most systems best; however, there is no guarantee. There are many systems that move a presentation page by page remotely as well. Last but not least, practice makes perfect. You only get one opportunity to look good.

Conducting the presentation starts with introducing yourself as the subject matter expert. To support that, look the part. Explain why you are the right person to be presenting. Try to connect to, not distance yourself from, your audience.

The material itself has to be specific to the audience you are presenting to. Find out who makes up the target audience and what their interests are. Too often, the mistake is made to use a standard, generic corporate presentation with no customization. Most corporate presentations are very stereotypical. Some branding has to be done, but keep it brief and to the point. Find a story that is entertaining, so people can remember something that sets you apart from the other hundred corporate presentations the customer has heard before.

I once received a corporate presentation from global HQ that was twenty-four pages strong. Eight slides were on product families, and the rest on history, vision, mission statements, lists of executives, and org charts of every division in the corporation. Clearly, this elaborate presentation was very internally focused. Considering I had sixty minutes for a lunch-and-learn presentation that was technically focused on a single product, I was forced to summarize the corporate style presentation in three slides. At the end of the day, that was all the client wanted to know—what we do, where we come from, and where we are going. I made it more unique by highlighting an interesting trivia story board fact for the audience to remember. For those people who wanted a little more, I added some slides in the back that could be referred to later, but weren't actively presented. Simple customization is provided through the use of the customer's name and logo on the front page. Similar projects that the customer is currently working on need to be part of the story. Since there were already business connections, I added some pictures

and references to existing installed sites with the same customer group. This helped enormously in connecting with the group, making the presentation more pertinent, and taking some risk out of the equation.

Every audience is different. Engineers, for example, don't care very much for commercial or organizational information; they prefer to get to technical information quickly, and it has to be pertinent. A common mistake is to show catalogue information and believe that is technical. While it is useful to show the complete product range, as everybody's knowledge will be less than perfect on your company, one shouldn't dwell too much on that. Laser focus on those products and services that may be of interest. It is a good idea to confirm if the other products could be of interest as well. Lacking from most presentations is why your client needs a certain product or service and the potential value propositions behind them. Quantifying these advantages in actual real-life examples helps the audience visualize how they can use the products. These are very important points, central to every effective presentation.

For a one-on-one discussion, I do not feel an electronic PowerPoint presentation should be used. It gets in the way of what should be a perfectly normal dialogue. However, it is advantageous to have some graphic material available just in case an illustration is required.

When invited to a bid clarification meeting, the presentation has to be very focused; it must never be generic, but specific to the actual equipment and project proposed. For the engineering-oriented customer, the presentation must once again not be too commercial. A technically oriented speaker must not forget to point out not just features but quantifiable value propositions.

A presentation must be engaging and pertinent. The use of great graphic elements is required in today's world, and a graphic animation or two showing how equipment works is essential and very beneficial. Showing real-life props, if feasible, is great too and convinces the audience the product actually exists and works. It is important to keep the audience focused on you and the message you need to send. Don't just read off your slides. Present and talk about more information than is on the slides. Make dramatic gestures or pauses where required, and make sure you keep eye contact with every part of the room. This makes many people feel they are being addressed personally and prevents their attention from wandering off or their even sleeping. It helps to ask questions and let the audience participate in the presentation to captivate their active attention. In many parts of the O&G industry, one slide has to be devoted to a safety moment, usually up front. Be sure you find out in advance if your customer requires such an "Introduction" and which topics can be chosen.

As a supplier, I was invited once to an international refinery expansion project handled by an EPC in Houston, where on subsequent days three OEMs were invited to present their proposals. Our role was unique in that we offered a specific control technology that could be applied to all three vendors, and we were required to support