

# Case-Study Exercise: Module Three Challenge

## Task

Download the “Customer Research Checklist” tool and complete as much information as you can for the first three worksheets within it for the scenario described below using the information contained within the scenario as well as research on Caterpillar Inc. that you complete yourself online.

Suggested online resources include (but should not be limited to):

- <https://www.caterpillar.com>
- <https://www.caterpillar.com/en/investors/reports.html>
- <https://ih.adfn.com/stock-market/NYSE/caterpillar-CAT/stock-price>
- <https://www.reuters.com/finance/stocks/financial-highlights/CAT>
- <https://theorg.com/org/caterpillar-inc>
- <https://www.owler.com/company/caterpillar>
- [https://www.perkins.com/en\\_GB/products/sectors/electric-power/prime-power.html](https://www.perkins.com/en_GB/products/sectors/electric-power/prime-power.html)

The first three worksheets within the “Customer Research Checklist” tool that you must complete are:

- Customer
- Solution
- Initiative

## Scenario

You are a Customer Success Manager for Jubilee Engine Performance Management Systems Inc and you have been briefed on early round discussions with a potential new customer, Caterpillar Inc\*. Your company manufactures engine performance monitoring and management systems which consist of a sensor that is attached to each engine, and management software that analyses information sent by the sensor to fine tune the engine in order to increase its performance and longevity and to send automated alerts if the engine starts operating outside of predefined normal operating boundaries, to increase engine reliability. You sell your products and related services to OEMs (own equipment manufacturers) for them to include as a component within the engines they produce and sell to their customers. Your particular USP (unique selling proposition) is your sensors' ability to send data to your management software remotely via wifi and the internet, making it particularly good choice for heavy industrial applications.

Caterpillar is of course a very large and highly prestigious company with a globally recognized brand name and with significant annual revenues and profits. As such they present a very exciting opportunity for your business to acquire as a new customer. Your company's Account Manager for Caterpillar is Kenneth Mason. He has been working on the Caterpillar opportunity for several months now, alongside Solution Architect Terry Garston from the Engineering team. They have had various discussions and negotiations with some of Caterpillar's senior executives, namely Gwenne Henricks, Caterpillar's Chief Technology Officer and Steven Ferguson, the company's Vice President for Industrial Power Systems. The latter is the principal or lead contact for the initiative, although he reports into Henricks who will have the ultimate say in the decision to go ahead or not, in consultation with their Chief Information Officer John Heller and with approval in terms of any potential security issues being resolved, which will come from the Chief Security Officer, who will consult with the Chief Information Security Officer on this.

Henricks and Ferguson are interested in the potential for your company's recently launched *Jubilee System 7* sensor range (specially designed for large diesel engines) to be incorporated into their Perkins Series 4000 industrial power generation engines along with its software management system. These engines are very much "top of the range" and so Caterpillar as an industry market leader is always looking for new technology innovations that could potentially improve and enhance the performance and reliability of their products.

Initial testing proved successful, and Caterpillar are willing to take it to the next stage, namely a full, six month "proof of concept" pilot of the system in twelve engines within a carefully controlled test environment, to prove whether or not the *Jubilee 7 System* can actually enhance engine performance, reliability and longevity as your company is suggesting, and if so by how much. Ferguson has explained that performance and reliability are both important to Caterpillar, but they are particularly interested in whether the system can increase the longevity of their engines, as increased engine lifespans is something that Caterpillar's customers are particularly interested in.

There is one potential issue that has been raised by Caterpillar Inc's CSO and CISO. They are concerned about potential security threats, since the proposed system uses Internet connectivity to transfer data between the sensor and the management system. They will want to be involved in the pilot in order to determine and deal with any potential security concerns. Little about them is currently known and this is something that your AM Kenneth Mason is currently working on, and he hopes to arrange a meeting with them to discuss their concerns in more depth very soon. What he has learned is that their Director of their Global Security department is called Tim Williams, though he is not certain how much involvement he will directly have within the initiative.

Assuming the results from the pilot are satisfactory, Caterpillar intends to purchase the *Jubilee 7 System* sensors for inclusion within all 4000 Series engines it manufactures (roughly 3,000 each year) at a per unit cost to caterpillar of \$57, along with the software system which is not charged for, but which tends to require customization and configuration work which *is* charged for on case-by-case basis, plus ongoing annual management and maintenance fees which for Caterpillar would be \$270,000 per annum for third line support and break/fix maintenance, and the expectation would be for a commitment period of five years.

The software system will need to be heavily customized to meet Caterpillars specific requirements, which include an entirely new control panel module as well as some rebranding to reflect Caterpillar's own "CAT" brand. It will also need some professional services work done to integrate it fully with Caterpillar's existing *CatScan* engine maintenance software system, so that data can be exchanged between the two systems. Costs for this work are estimated at \$150,000 for the customization work and \$120,000 for the integration work.

Caterpillar would also incur your company's standard, one time installation fee of \$50,000 to install and initially configure the *Jubilee System 7* software onto Caterpillar's IT infrastructure. This "install and configure" fee also includes training for up to twenty engineering staff from Caterpillar who then use the software to monitor and manage the engines caterpillar sells to its customers as a paid for managed service to those customers. Caterpillars HR person is Cheryl Johnson and she has requested that only four engineers be trained at any one time to enable continuity of service to Caterpillar's customers, as the engineering support team for the Series 4000 engines is only small at 16 people in total. To reduce delays, you have suggested that these engineers can be trained at your own offices on a mock-up system that will look like the real system, allowing the engineers to be fully trained and ready by the time Caterpillar's own system has been customized, installed and configured.

As the appointed CSM for this proposed deal, and even though it is still in its early days, you need to conduct some basic research into Caterpillar as a company, the initiative that the proposal supports and the key people involved and then document it for future reference.

*\* Note: Whilst Caterpillar Inc is a real company, the above scenario is entirely fictitious. A real company has been used within the scenario only in order to enable you to practice conducting basic customer research online.*

# Case-Study Exercise: Module Three Model Answer

A	B	C	D	E
1 Customer Basic Information	Caterpillar	Industrial Machinery and Vehicles	Heavy Industries	Multiple, best known for tracked vehicles
2 Customer Finances (for year ending 2018)	Turnover = \$54.7bn	Profits = \$8.3m	Share Price = 123.12	Cash at end of year 2018 = \$7.8bn
3 Customer Primary Market	Construction Industries	approx 42% of revenue	Excavators and bulldozers	Market Position = First
4 Customer Secondary Market	Energy & Transportation	approx 37% of revenue	Haulage and mining automation	Market Position = First
5 Customer Tertiary Market	Resource Industries	approx 21% of revenue	Railway and engines	Market Position = Unknown
6 Company size	104,000 employees	Unknown ratio full to part time	Unknown ratio full to part time	contract worker size unknown
7 Company Locations	North America = (47%)	Asia/Pacific (23%)	Europe/Africa/Middle East (20%)	Latin America (10%)
8 Head Office	Deerfield, Illinois, United States	HQ workforce = 12,000		
9 Structure	Org Chart for Caterpillar:	<a href="https://theorg.com/org/caterpillar-inc">https://theorg.com/org/caterpillar-inc</a>		
10 Ownership	Publically traded on NYSE stock ticker = CAT		funding source (if relevant)	decision / authority source (if relevant)
11 Importance to us as a customer	High	An industry leader and a globally recognized brand name, as well as a very large company with a lot of potential needs for our solutions		
12 CEO	Jim Umpleby	no involvement		
13 CFO	Andrew Bonfield	no involvement		
14 CIO	John Heller	Final approval - no direct contact		
15 CTO	Gwenne Henricks	Main driving force - some direct contact		
16 COO	Currently hiring for this role	N/A		
17 CSO (security)	Randall Coleman	Final approval - no direct contact		
18 CMO (marketing)	Rod Beeler	no involvement		
19 CSO (information security)	Scott Smith	Subject matter expert	Chief Information Security Officer	
20 Other CXO	Steven Ferguson	Principal direct contact	VP Industrial Power Systems	
21 Other CXO	N/A	N/A	N/A	
22 Other CXO	N/A	N/A	N/A	
23 Head of HR	Cheryl Johnson	Liaison for onboarding and adoption	Chief Human Resources Officer	
24 Head of Training	N/A	N/A	N/A	
25 Head of Projects / Programs	N/A	N/A	N/A	
26 Department Head 1	Tim Williams	Subject matter expert	Director of Global Security	
27 Department Head 2	N/A	N/A	N/A	
28 Department Head 3	N/A	N/A	N/A	
29 Department Head 4	N/A	N/A	N/A	
30 Department Head 5	N/A	N/A	N/A	
31 Department Head 6	N/A	N/A	N/A	
32 Other company information 1		N/A		
33 Other company information 2		N/A		
34 Other company information 3		N/A		
35 Other company information 4		N/A		

A	B	C	D	E
1	Solution Details	Caterpillar Series 4000 Proposal	Inclusion of our Jubilee System 7 sensors and software management system within the Perkins 4000 Series engines	
2	Account Manager	Kenneth Mason		
3	Sales Specialist	N/A		
4	Solution Architect	Terry Garston		
5	Design/Systems Engineer	N/A		
6	Importance Level	High		
7	Product 1	Jubilee System 7	\$57 per unit x est. 3,000 units pa	Engine performance sensor device for large diesel engines
8	Product 2	Jubilee System 7 Software	No charge	Engine performance centralised management software system
9	Product 3	N/A	N/A	N/A
10	Product 4	N/A	N/A	N/A
11	Product 5	N/A	N/A	N/A
12	Product 6	N/A	N/A	N/A
13	Professional Service 1	Assistance with initial pilot	\$50,000	A pilot run of the system installed into twelve engines and run in a test environment for six months
14	Professional Service 2	N/A	N/A	N/A
15	Professional Service 3	N/A	N/A	N/A
16	Professional Service 4	N/A	N/A	N/A
17	Managed Service 1	Jubilee System Software Maintenance & Support	\$270,000pa	Third line support and full maintenance package for all Caterpillar 4000 Series customers
18	Managed Service 2	N/A	N/A	N/A
19	Managed Service 3	N/A	N/A	N/A
20	Managed Service 4	N/A	N/A	N/A
21	Customization	Software customization	N/A	N/A
22	Integration	Integration with CATScan system	\$150,000	Reworking control panel to reflect customer requirements. Rebranding to CAT brand
23	Configuration	On site software configuration	\$120,000	Detailed integration with Caterpillar's own CatScan engine maintenance software system
24	Initial Revenue	\$370,000 professional services + Yr1 fees	\$50,000	on site installation and initial configuration of Jubilee System 7 software onto Caterpillar's servers
25	Annual Recurring Revenue	\$270,000 software and \$171,000 sensors		
26	Projected Total Revenue	\$2,575,000	Five Years (net present values)	
27	Third Party Product/Service 1	N/A	N/A	N/A
28	Third Party Product/Service 2	N/A	N/A	N/A
29	Third Party Product/Service 3	N/A	N/A	N/A
30	Third Party Product/Service 4	N/A	N/A	N/A
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A	B	C	D	E
1 Initiative Details	Caterpillar Series 4000 Proposal	Inclusion of our Jubilee System 7 sensors and software management system within the Perkins 4000 Series engines		
2 Strategies supported	Technology Innovation	Engine Performance - Longevity	Engine Performance - Reliability	Engine Performance - Economy
3 How supports vision and/or mission	Caterpillar markets its 4000 Series engines as the most robust and reliable available, and pride themselves on investing in technology innovation to stay ahead of the curve			
4 Visibility level	Business and Technical	C level - CTO is driving force	Medium customer priority	
5 Business Outcome 1	Maintain position as no.1 engine for power generation	High	describe how supported by initiative	CTO - Gwenne Henricks
6 Business Outcome 2	N/A	N/A	N/A	N/A
7 Business Outcome 3	N/A	N/A	N/A	N/A
8 Technical Outcome 1	Increased engine longevity	High	Automated engine tuning	CTO - Gwenne Henricks
9 Technical Outcome 2	Increased engine reliability	Medium	Configurable automated sensor alerts	CTO - Gwenne Henricks
10 Technical Outcome 3	Increased engine performance	Medium	Automated engine tuning	CTO - Gwenne Henricks
11 Key Milestone 1	Initial Pilot	6 months	Proof of concept (specific targets to be agreed)	
12 Key Milestone 2	Contract Signature	8 months	Signed Contract	
13 Key Milestone 3	Sensors shipped to caterpillar manufacturing facility	9 months	Sensors received by customer	
14 Key Milestone 4	Software customized	12 months	Software development sign-off	
15 Key Milestone 5	Software installed, configured and ready for use	14 months	Software installed sign-off	
16 Key Milestone 6	Support System in place	14 months	Customer sign off	
17 Key Milestone 7	Training on software utilization (at our facility)	14 months	Customer sign off	
18 Outcome Attainment	Go Live	14 months from now	Customer sign off	
19 Infrastructure Considerations		insert notes		
20 Security Considerations	Will need to liaise directly with Scott Smith (CISO) and Tim Williams (Global Security) regarding proving security of software system during the pilot			
21 Business Continuity Considerations	Training on software utilization (at our facility) will be delivered in small groups to avoid any loss of productivity. Organized by Chief HR Officer			
22 Installation Considerations				
23 Configuration Considerations	Liaise with Steven Ferguson, VP Industrial Power Systems			
24 Customization Considerations	Liaise with Steven Ferguson, VP Industrial Power Systems			
25 Other Technical Challenges		insert notes		
26 Project Challenges		insert notes		
27 Project Dependencies				
28 Importance to Us		High (both for direct revenues and as a marketing case study)		
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