



MARKET PENETRATION REPORT INDUSTRIAL UPS

[CUSTOMER HIDDEN]

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Introduction:

XXXXXXXXXXXX(XXXX) has been an independent division within our parent company XXXXXXXX (T&B), since June 2007. (*Exhibit 1*) It has a manufacturing facility in Richmond VA. Marketing, sales and after sales service activities are also performed or directed from this facility. Currently, there are about 200 employees working in this facility (direct and overhead). Our niche is our highly customizable products that are reengineered to meet customer demand. We therefore believe that this is a highly specialized segment of the electrical equipment industry. (*Exhibit 2*) Our organization can be classified as a low volume, high mix manufacturer. As of May 17th 2012, XXXwas acquired by ABB Inc.

This paper deals specifically with the Industrial UPS (*Brand Name: XXXXXXXX*) product family that is manufactured and serviced by this organization. XXXhas deemed the global expansion of the Industrial UPS products as a key strategic initiative. XXX has further decided to initially expand into the rapidly growing Middle East region. The primary reasons for this initiative were to access growth markets to attain organic growth. The authors will initially provide the expectations of the business, while providing a thorough analysis of the market place. The paper will go on to formulate a hypothesis and create a value proposition. Finally, the authors will layout scenarios and provide recommendation to the executive committee at XXXXX for implementation.

XXXowns multiple successful brands that have a global presence. Most of the brands were acquired through its 110 year history and were transformed into successful global brands. XXXhas also been successful at developing brands organically, by innovating strategic supply chains and good manufacturing practices. XXXconsiders itself a leader in continuous improvement and lean manufacturing activities. The organization is always looking to lower manufacturing cost and while becoming the brand of choice. The XXXXXXXX brand along with its technical expertise in the power quality sector provides the organization the skill in the service arena. Finally XXXcan now leverage the benefits that it stands to gain, due to its association with a conglomerate such as ABB. The authors believe that XXXis appropriately positioned to undertake this strategic initiative.

Destination:

The global industrial UPS estimated market size in 2012 is approximately \$ 1.134.6 billion. The global Industrial UPS market is expected to grow at a CAGR of 3.9% (2009 -2016). Within the US market, XXXXXXXX is synonymous with quality and reliability. XXXXXXXX as a brand is well known and respected in the Oil & Gas and Power Generation markets as well. In other words, there is a significant equity in the XXXXXXXX brand. However over the years, XXXXXXXX diminished its offerings from a complete product portfolio to a limited single phase output industrial UPS and lost its competitive edge.

XXXXXXX is in the process of improving their product and service offerings in the NAM region over the last few years. In the same period from 2009 – 2016, the market is expected to have a CAGR of 2.0%. The revenue forecast for this market is expected to be \$ 228.3 million. In addition XXXXXXXX plans on recapturing their lost market share in the Middle East. (Revenue: \$ 256.2 million; CAGR 4.3%).

The stated objective is to capture **10% of the Middle Eastern market share within the next three years and possibly double that figure** within the next five years. XXXX will attempt to meet these goals by providing the customer a highly reliable and customizable product that suits their unique situation. In addition to this product, XXXXXXXX intends to provide reliable service and after sales support to customers.

Opportunity Assessment

Market Definition – Industrial UPS Systems

Before embarking on any market penetration strategy it is important to first understand both the size of the target market as well as its composition. The industrial UPS market is a specific subset of the global market for uninterruptible power supplies. While the primary function of any UPS is to provide an unbroken flow of power for

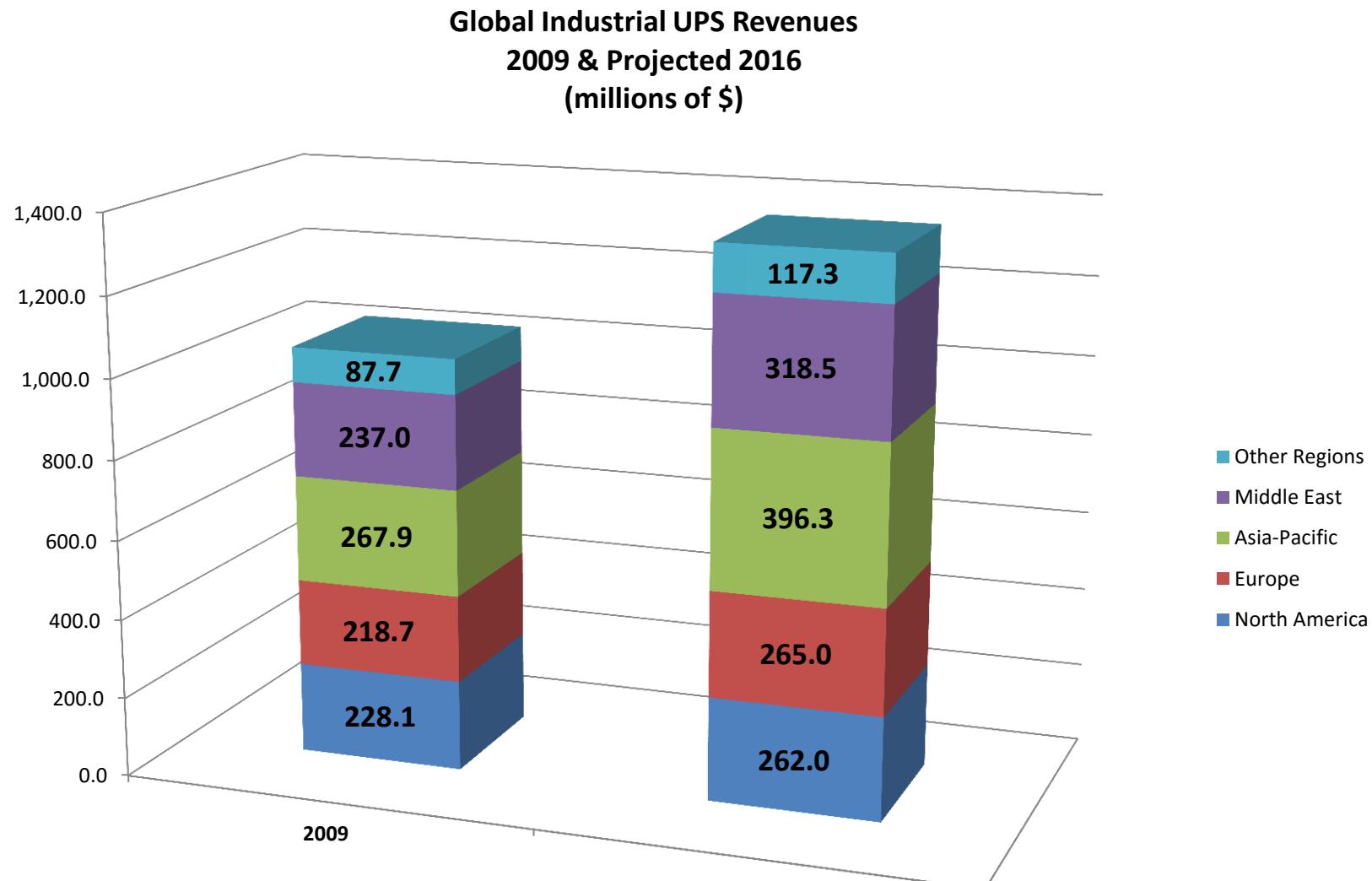
electrical devices, an industrial UPS is designed to fulfill its role in support of large and highly sensitive commercial applications where power loss can have far-reaching negative consequences. An example of these types of mission critical applications would be the use of an industrial UPS in a municipal water treatment plant. These devices are designed to be highly reliable with extraordinarily long service lives. Industrial UPS systems are ruggedly constructed in order to cope with extreme temperature and moisture variances as most devices are deployed in adverse environmental conditions (Frost & Sullivan, 2010).



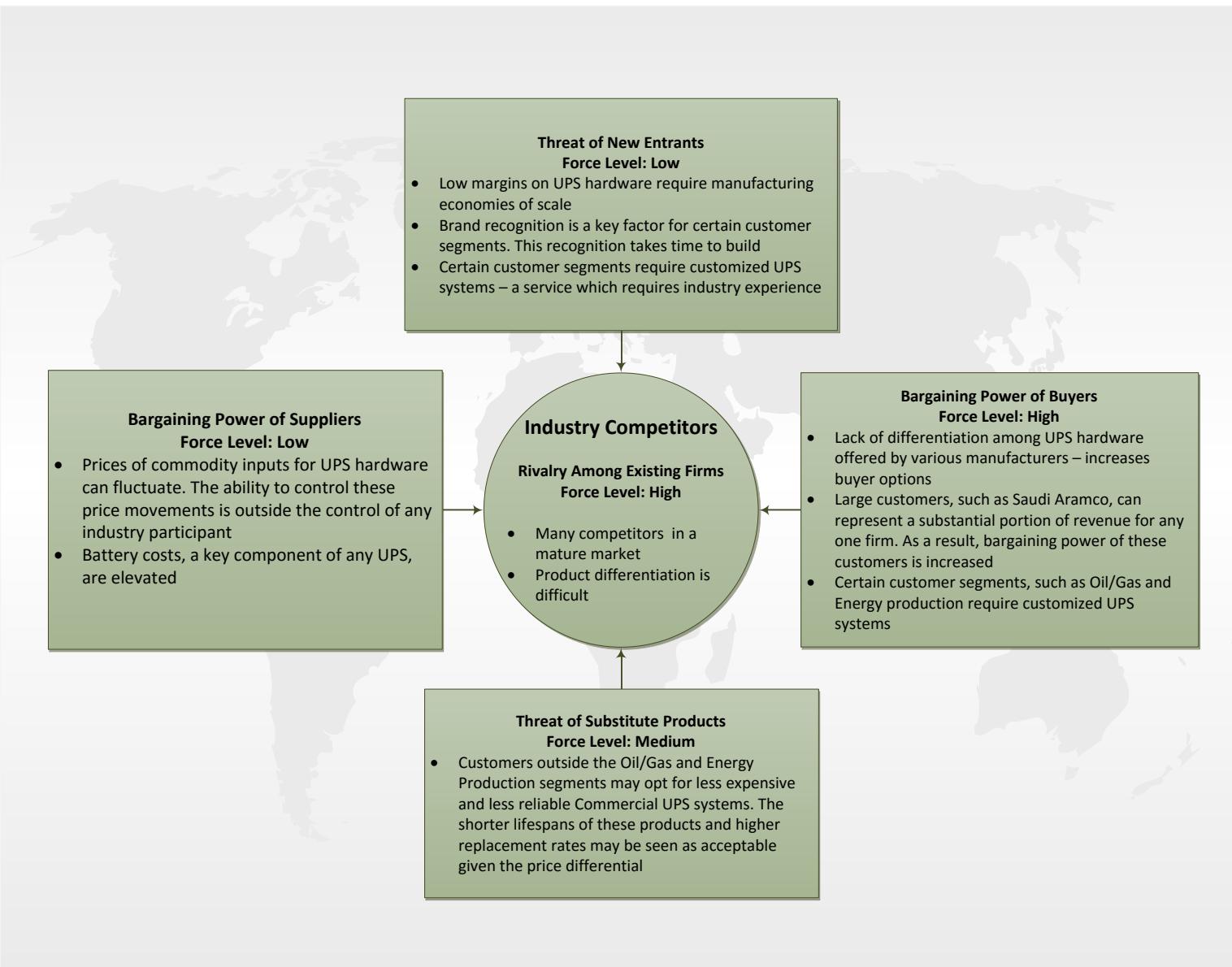
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Appendix 1: Global Industrial UPS Revenues (2009 & 2016)



Appendix 2: Industrial UPS Market – Five Forces Analysis



Appendix 3: XXXXXXXXXXXXXXX SWOT Analysis for the Middle Eastern Market

Strengths	Weaknesses
<ul style="list-style-type: none"> • Strong engineering capabilities - T&B focuses on meeting customer's specialized demands in order to differentiate itself in a crowded market • High level of global recognition for key brands • Prior experience in the MENA region • Lean manufacturing and supply chain management capabilities – critical for a mature industry • High level of expertise and reputation in the areas of UPS service and support 	<ul style="list-style-type: none"> • Smaller manufacturing scale than larger industrial UPS competitors (i.e. APC) • Brand damage in the MENA region as a result of the discontinuation of the Cyberex product line (Blacklisted by key MENA customer: Saudi Aramco)
Opportunities	Threats
<ul style="list-style-type: none"> • The Middle East represents a high growth market for industrial UPS (CAGR of 4.3% through 2016) • Saudi Aramco, a key customer in the Middle East, relisted Cyberex as an approved supplier in 2010 • Increasing prevalence of applications that require reliable uninterrupted power (i.e. data centers) 	<ul style="list-style-type: none"> • Uncertain global economic climate may prompt large key customers to maintain legacy hardware rather than update to newer UPS systems • Cost of key UPS materials, such as copper, have been on the rise. Future increases may compress profit margins • A drop in oil prices could reduce capital expenditures for the Oil and Gas segment in the Middle East putting downward pressure on demand

Appendix 4: Industrial UPS Customer Segments - Market Composition, Distribution Channels, & Key Preferences

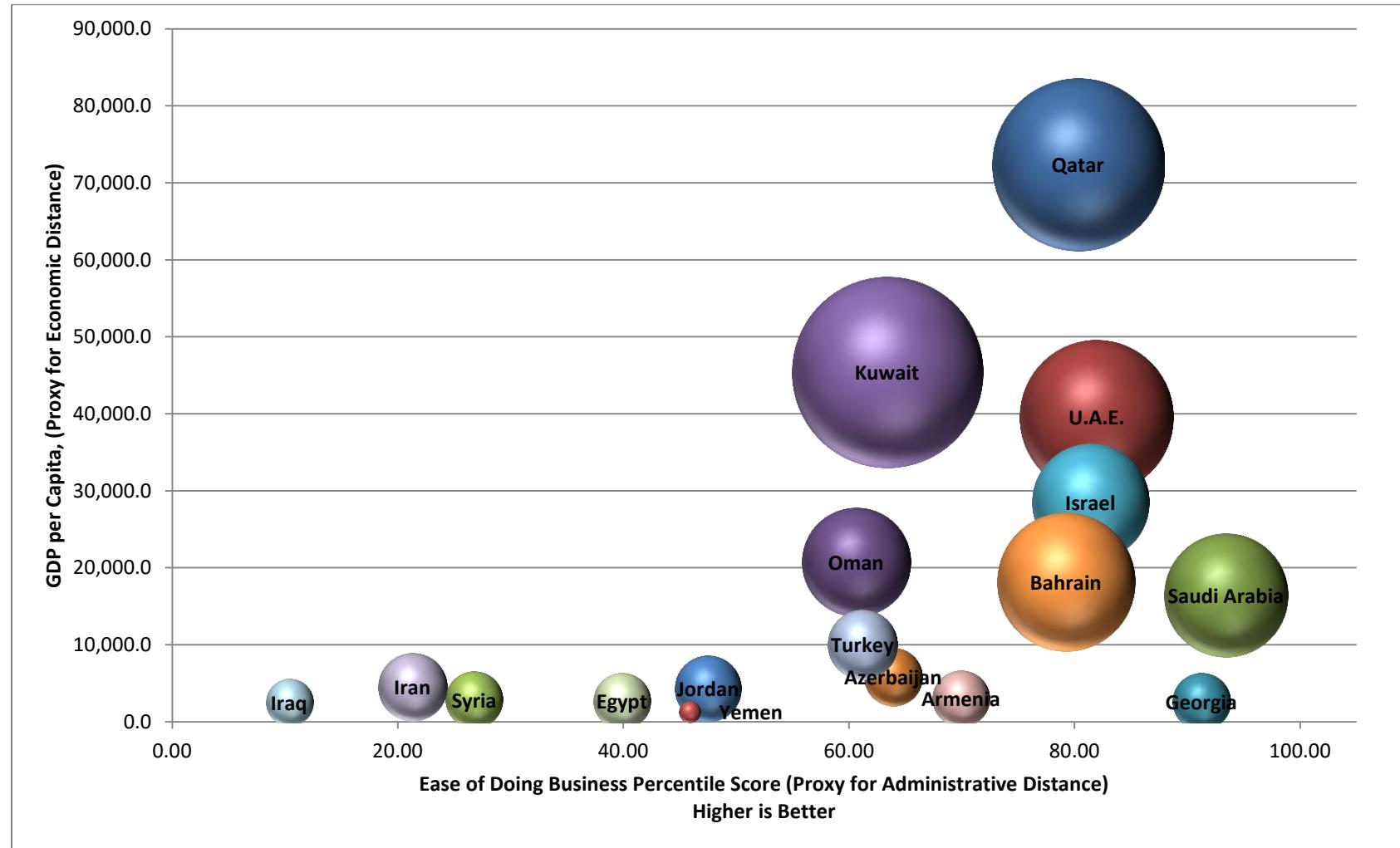
Customer Segment	Global Revenue (2009)	Expected Revenue CAGR to 2016	Sales through Direct Distribution	Sales through Engineering, Procurement, & Construction Contractors	Other Distribution Channels (OEMs, Other Resellers)	Top 4 Key Product Traits for Industrial UPS Systems (in order of importance)
Oil and Gas	\$314M	3.8%	25%	70%	5%	Reliability, Brand Recognition (References from comparable users), Customization, Pre & Post Sales Service/Support
Power Generation	\$363.6M	5.0%	35%	60%	5%	Reliability, Brand Recognition (References from comparable users), Customization, Pre & Post Sales Service/Support
Chemicals	\$225.5M	4.0%	65%	30%	5%	Reliability, Brand Recognition (References from comparable users), Pre & Post Sales Service/Support, Customization
Other Miscellaneous Commercial	\$158.9M	3.00%	70%	20%	10%	Reliability, Price, Brand Recognition (References from comparable users), Pre & Post Sales Service/Support

Data Source: (Frost & Sullivan, 2010)

Appendix 6: CAGE Distance Analysis – The Industrial UPS Market in the Middle East

Cultural Distance	Administrative Distance	Geographic Distance	Economic Distance
<p><u>Level of Sensitivity: Low</u></p> <p>The need for reliable uninterrupted power transcends local culture. Furthermore, Industrial UPS sales involve business-to-business transactions. As a result, the sensitivity of the industry to cultural differences is muted relative to the effects seen in business-to-consumer transactions.</p>	<p><u>Level of Sensitivity: High</u></p> <p>The administrative distance of the Middle Eastern region must be measured on a country by country basis. Administrative barriers in some countries such as Iran make international trade extremely difficult. On the other hand, countries such as Saudi Arabia are quickly lowering barriers to international commerce. For example, in 2012, the World Bank and the International Finance Corporation ranked Saudi Arabia 12th out of 183 countries in terms of the ease with which companies can conduct business (World Bank Group, 2012).</p>	<p><u>Level of Sensitivity: Moderate</u></p> <p>Geographic distance is not anticipated to be a hindrance for the sale and installation of industrial UPS systems. Furthermore, many countries in the region, particularly those on the Arabian Peninsula, have well developed transportation infrastructures. Distance will impact the service and support aspect of the business to a greater degree as some customers, particularly those in the Oil and Gas segment, can have systems dispersed over a wide area (i.e. the wide dispersion of Saudi Aramco sites in Saudi Arabia).</p>	<p><u>Level of Sensitivity: High</u></p> <p>Demand for industrial UPS systems in a particular country is directly related to that country's economic health. As commercial customers expand operations, so too will the applications that require clean and reliable power. As a result, the sensitivity of the UPS business to the economy of a particular country is quite high.</p>

Appendix 7: Economic & Administrative Distance – Industrial UPS Market in the Middle East



The size of each country data point represents that nation's electricity use per capita (measured in Kwh) and is used as a proxy for the level of applications that will drive demand for industrial UPS systems

Appendix 7A: Supporting Data - Economic & Administrative Distance – Industrial UPS Market in the Middle East

Country	Ease of Doing Business Index (Percentile Ranking)	GDP \$ per Capita	Electricity Usage per Capita (Kwh)
Qatar	80.33	72,397.6	14,420.8
Kuwait	63.39	45,436.8	17,610.0
U.A.E.	81.97	39,624.7	11,463.6
Israel	81.42	28,522.4	6,607.6
Saudi Arabia	93.44	16,423.4	7,427.2
Bahrain	79.23	18,184.2	9,214.4
Oman	60.66	20,790.8	5,723.9
Turkey	61.20	10,049.8	2,297.8
Georgia	91.26	2,613.7	1,585.2
Lebanon	43.17	9,226.6	3,130.1
Azerbaijan	63.93	5,843.2	1,620.5
Armenia	69.95	3,030.7	1,550.4
Jordan	47.54	4,370.0	2,111.9
Egypt	39.89	2,698.4	1,548.6
Yemen	45.90	1,290.6	218.8
Iran	21.31	4,525.9	2,237.5
Syria	26.78	2,892.8	1,562.8
Iraq	10.38	2,532.3	1,068.6

Data Source: The World Bank; www.worldbank.org

Appendix 8: Strategic Conclusions

Strategic Corridor	Strategic Conclusion
Operations & Product Management	<p>Manufacturing Efficiency Will Be Critical To Success – As a result of the large number of competitors in the Industrial UPS market, profit margins on pure hardware sales will remain thin. Continual optimization of manufacturing practices and rigorous oversight of the supply chain is more important in this market compared to other technologies which are in earlier stages of the product life cycle. This fact holds implications for organizational structure and the layout of the manufacturing network.</p> <p>Two Distinct Business Models - The Customization versus Standardization Dynamic - Customer segments, such as Oil/Gas and Power Generation, highly value a manufacturer's ability to build a customized Industrial UPS system which is specifically suited for their application. Other customers, such as general manufacturers, will accept standardized solutions. This customization versus standardization dynamic makes it difficult for any one competitor to successfully meet the needs of all customer segments as each business model requires different operational behaviors. As a result, industrial UPS manufacturers must determine if they wish to compete for the standardized market on the basis of price or the customized market on the basis of other factors, such as design capability. Once this decision is made, companies must then target those customer segments that most highly value the chosen business model.</p>
Customer	<p>Effective Customer Relationship Management is Key – Industrial UPS customers are generally very large and can account for a substantial portion of a manufacturer's revenue over time. This is particularly true in the Middle East where large state-owned enterprises are common. For example, Saudi Aramco, the national oil company of Saudi Arabia, made over \$100 billion dollars in capital expenditures in 2009 in order to boost refining capacity (Mahdi, 2012). These types of investments strongly influence demand for supporting products, such as industrial UPS systems. As these large customers can determine the success or failure of a company's revenue growth strategy, it is important that companies such as Thomas & Betts become adept at CRM.</p> <p>Post-Sales Support and Service Drives Profitability – The thinning profit margins of UPS hardware sales means that the income generated by post-sale service and support contracts will be critical to industrial UPS manufacturers. On average, service contracts account for 20 to 25% of revenue for industrial UPS systems (Frost & Sullivan, 2010). Corporate customers that make large capital expenditures for industrial UPS systems expect prompt and reliable service that is available on an around the clock basis to ensure their operations are not disrupted. Companies that can build a reputation for expertise in service and support will be able to further differentiate themselves in a crowded market.</p>
Target Market Selection	<p>Tier 1 Countries Should Be Targeted Immediately, Tier 2 Countries Represent Future Growth Prospects, Tier 3 Countries Should be Avoided – The CAGE analysis as well as the supporting quantitative analysis of administrative and economic factors in the Middle East reveal three distinct stratifications of countries in the region with regards to potential industrial UPS demand. Tier 1 countries include Qatar, Kuwait, the United Arab Emirates, Israel, Bahrain, and Saudi Arabia. The administrative distance to these countries, as indicated by the Ease of Doing Business Index, will facilitate Thomas & Bett's operations. Furthermore these countries possess favorable economic metrics as well as healthy demand for electricity consumption. Tier 2 countries include Oman, Turkey, Azerbaijan, Armenia, and Georgia. These countries do not currently possess the economic output or electricity consumption necessary to sustain healthy demand for industrial UPS systems at this point in time; however, these nations rank favorably in terms of administrative distance and are likely to represent future markets for growth in the next 5 to 10 years. Tier 3 countries include Iraq, Iran, Syria, Egypt, Jordan, & Yemen. These countries lack both the economic health and business environments necessary for viable commercial operations and should be avoided at the present time.</p>