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The Search for Creative Destruction

Equity Research

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Defining Creative Destruction

A term coined by Austrian economist Joseph Schumpeter in 1942, the notion of "creative destruction" emphasizes that in an open, free and capitalistic society innovation can disrupt certain industries, forcing established companies and business models to either adapt or die. By way of reference, we note that we have periodically cited this concept as a structural driver in our thematic publications since 2009.

In our view, the process of creative destruction is primarily driven by product or business model innovation – often abetted by technology– that results in a superior value offering for consumers, be it higher performance, greater convenience or lower cost. This enhanced value proposition is the source from which economic benefits then flow, first to the innovator and over time to its consumers and competitors. The new product or model often proliferates into a new paradigm until subsequent innovation in turn threatens its dominant position.

Eight Disruptive Themes

(1) E-cigarettes: The potential to transform the tobacco industry
Imagine a product that is possibly >99% less harmful than cigarettes, delivers a similar use experience and offers a better economic bargain—this is the proposition of electronic cigarettes (e-cigs). We believe e-cigs have the potential to alter the status quo of the US tobacco market and accelerate the volume decline of traditional cigarettes. We estimate, as of August 7, 2013, that e-cigs could account for more than 10% of total tobacco industry volume and 15% of the total profit pool by 2020.

(2) Cancer Immunotherapy: The future of cancer treatment?
Cancer immunotherapy, or "re-training" the immune system to kill cancer cells, has become the dominant story in pharma with impressive responses and survival data in some of the most intractable cancers. Goldman Sachs initial projections of $10-15 bn by 2025 in melanoma, lung and renal may only be the start. Although initially being studied in later lines of treatment, these agents could be used similarly to how chemotherapy agents are used to today – first-line therapy across a diverse range of tumor types.

(3) LED Lighting: A large, early-stage and multi-decade opportunity

Driven by their small and energy-efficient footprint, LEDs have evolved through several adoption cycles over the past decade, starting with handsets in the early 2000s and moving to TVs in the most recent cycle. We see the next phase of LED growth in general lighting, which is now entering the beginning of a multistage adoption curve that will extend over the next several decades.

(4) Alternative Capital: Rise of a new asset class means growing risk for reinsurers

Against a backdrop of low interest rates, pensions and other traditional investors have started moving into property-catastrophe reinsurance, contributing to significant deterioration this year. We believe that if pensions step up their participation by allocating a fraction of their portfolios to this area, reinsurers' ability to generate attractive risk-adjusted returns alongside this new capital could be permanently impaired.

(5) Natural Gas Engine Technology: Attractive economics drive strong, long-term penetration

Natural gas use in transportation is in the very early stages of a strong, long-term adoption curve driven by favorable fuel spreads, expanding refueling infrastructure and product cost reductions. We see the highest penetration opportunity for natural gas engines in high-mileage trucking applications where fuel costs savings are greatest.

(6) Software Defined Networking (SDN): Re-inventing networking for the cloud era

Even as the rest of the tech industry has moved into the cloud computing era, networking equipment remains stuck in a decade-old paradigm built around integrated hardware and software "boxes" that are configured manually and cannot scale. SDN promises to break that bottleneck, introducing an era of software intelligence and programmability that can create new platform leaders and high-margin software companies in the sector while leaving behind incumbents that cannot adapt.

(7) 3D Printing: Disruption materializing

Compared to traditional manufacturing and prototyping methods, 3D printing offers the potential for high degrees of customization, reduced costs for complex designs, and lower overhead costs for short-run parts and products. The industry has been growing in excess of 20% annually and is widely expected to accelerate in the years ahead.

(8) Big Data: Solutions trying to keep up with data growth and complexity

New technologies are needed as companies seek ways to glean insights from the explosive growth of unstructured or "Big Data" (captured via the web, sensors, smartphones) to better understand customers, products and processes. Traditional solutions have their limitations, as they were designed to analyze structured data for enterprise. We expect technologies to increasingly be leveraged with traditional solutions to address this phenomenon, augmenting existing vendors go-to-market offerings while also increasing risks of disruption.

This is a redacted version of *The Search for Creative Destruction* published August 7, 2013.

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