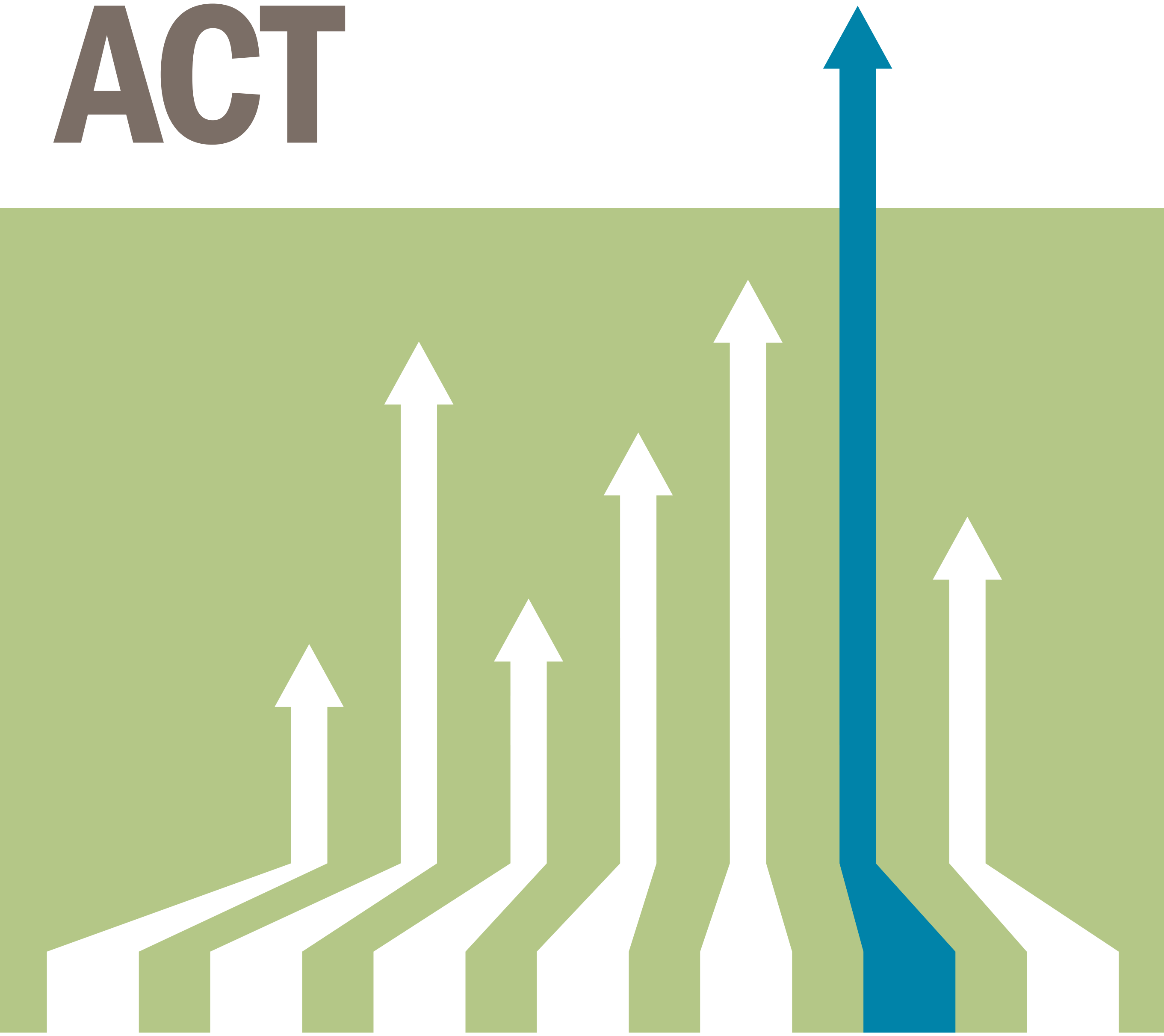
THINK ACT

BEYOND MAINSTREAM



THE WINNERS

How chemical companies deliver superior shareholder value

JULY 2014

Roland Berger
Strategy Consultants

THE BIG 3

1 Strategy framework

The Winners' Analysis is a framework to understand historical performance and to develop the future corporate strategy of a company

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2 Winners

Winners are companies that consistently deliver superior risk-adjusted profitability and growth

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3 4 characteristics

Four characteristics common to Winners are Business Leadership, Strategic Coherence, Financial Scale, and the Proven Ability to Execute

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1

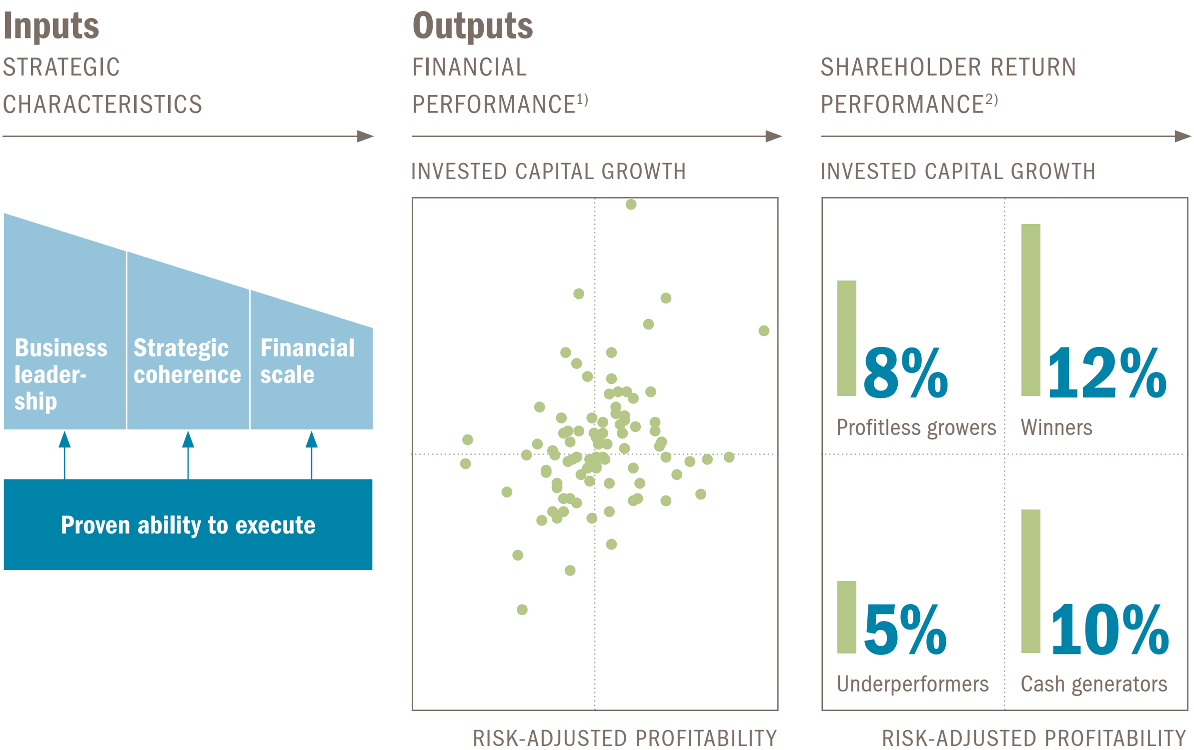
THE WINNERS' ANALYSIS

OVER THE LAST 15 YEARS, OUR EXTENSIVE STRATEGY WORK IN THE CHEMICALS INDUSTRY HAS LED US TO TAKE A DEEP LOOK INTO HOW CHEMICAL COMPANIES CREATE VALUE FOR THEIR SHAREHOLDERS – THE MAIN OBJECTIVE OF PUBLICLY TRADED CORPORATIONS IN NORTH AMERICA AND EUROPE.

Given the wide range in shareholder returns across the industry (median returns of 15.6% per year for the top quartile vs. 0.2% for the bottom quartile), we set out to answer the following three questions:

1. What are the financial performance metrics which drive shareholder returns?
2. Who are the companies which consistently deliver top-tier financial performance relative to the industry ("Winners")?
3. Can we identify the key strategic attributes common to the "Winners"?

The result of this multi-year effort is a product which we refer to as the "Winners' Analysis". It provides a diagnostic framework to understand historical performance as well as a blueprint for future corporate strategy development and execution.



1) Mapping of risk-adjusted profitability and growth of 91 companies over 1997-2013
2) Average shareholder returns (capital gains and dividends) of all the companies in each quadrant over 1997-2013

Source: Capital IQ, Roland Berger

What are the financial performance metrics which drive shareholder value?

SHAREHOLDER VALUE IS DRIVEN BY GROWTH AND RISK-ADJUSTED PROFITABILITY

The main goal of publicly traded companies is to create value for shareholders in the form of share price appreciation (capital gains) and dividends. Per financial theory, shareholder value is driven by investor expectations of future financial performance. Although share prices tend to change with earnings announcements and one-off events in the short-term, we find that they are primarily driven by the net present value of investor expectations of long-term financial performance, particularly in mature exchanges like those found in North America and Europe. A

When developing their expectations of financial performance of a company, investors, both implicitly or explicitly, are analyzing its profitability and growth potential, and adjusting these metrics for risk. Typically, investors will develop a financial forecast to build a free cash flow model. Revenue growth will be used as the growth metric, EBIT margin percentage as the profitability metric, and the cost of capital representing the risk adjustment.

We believe the best metric to analyze growth is the real growth in the invested capital of a company, which represents the capital on a company's books which finances its assets. It is a better metric to measure growth as opposed to revenues, which is more commonly used. Revenue trends can be misleading due to price volatility, driven by raw material fluctuations (common in the chemical industry) or supply and demand dynamics. Invested capital growth measures the

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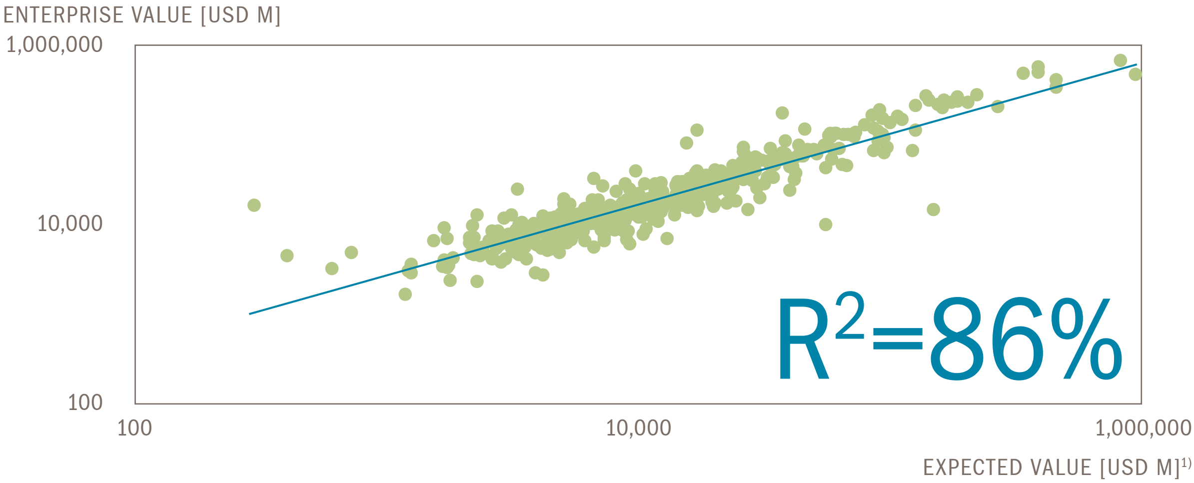
CORRELATION BETWEEN EXPECTED VALUE[1] AND MARKET VALUE FOR S&P500 COMPANIES



1) Net present value based on 2012 investor expectations of future financial performance (cash flows) from 2013-2024
Source: S&P500, Roland Berger

growth in assets and represents additional investment into the enterprise, and is not as affected by raw material price changes. B

We believe the best metric to measure risk-adjusted profitability takes the difference between the return on invested capital (ROIC) and the weighted average cost of capital (WACC). It is better than EBIT margin because it is a normalized metric, which measures not only profitability, but the amount of capital required to generate the profitability. EBIT margins provide no perspective on the capital intensity of a company and therefore may be misleading when comparing companies with different models. For example, for an investor looking at two companies with USD 1,000 in sales and 10% EBIT margin, the one requiring USD 200 of investment is more attractive than the one requiring USD 2,000.

B

THE RIGHT METRICS TO MEASURE GROWTH, PROFITABILITY, AND RISK

Invested capital

Total Debt + Total Equity

Risk-adjusted profitability

ROIC – WACC

ROIC
(Return on Invested Capital)

$$\frac{\text{NOPAT (Net Operating Profit After Tax)}}{\text{Invested Capital}}$$

WACC
(Weighted Average Cost of Capital)

$$\frac{[\text{Cost of Equity} \times \text{Equity} + (\text{After Tax Cost of Debt}) \times \text{Debt}]}{\text{Invested Capital}}$$

Source: Roland Berger

2 Who are the companies which consistently deliver top-tier financial performance relative to the industry ("Winners")?

ANY TYPE OF COMPANY CAN "WIN" IN THE BROADER CHEMICALS INDUSTRY

We have been using the two metrics described above in combination to plot the growth and risk-adjusted profitability of 91 companies headquartered in North America and Europe over the last 15 years – our "Winners' Matrix". 22 companies stand out as having both superior growth in invested capital and superior risk-adjusted profitability. By design of our Winners' matrix, these companies deliver superior shareholder returns over the same period. We call these companies the "Winners". Unsurprisingly, the set of Winners include investor favorites such as Ecolab, 3M, Monsanto, Albemarle, and Balchem.

Beyond the "Winners", our matrix allows us to define three additional quadrants: "Cash Generators" consistently generate returns above cost of capital but have subpar growth in invested capital; "Profitless Growers" achieve above-average growth but with returns below cost of capital, and "Underperformers" lag the industry along both metrics.

Cash Generators have outperformed Profitless Growers from a shareholder return standpoint (10% vs. 8%). This suggests that investors in the chemicals industry have been rewarding profitability over growth, likely related to the maturity of the Chemicals industry: when applying our Winners' analysis to other industrial sectors like equipment manufacturing or oilfield services, we have observed different results.

Interestingly, the choice of an industry segment does not drive financial performance: any type of company can "win" in the broader Chemicals industry. Each chemical industry segment – Commodity, Specialty, and Diversified as defined by SIC classification – is almost equally represented in the Winners' quadrant.

In summary, we believe our Winners' matrix is a powerful tool, as it provides relevant comparisons of the financial performance of companies to explain differences in shareholder returns. It should be noted that in the short-term companies may jump from one quadrant to another as they execute their strategy. For example, a Winner over the longer 1997-2013 time period may temporarily move to the Profitless Growth quadrant after completing a transaction: the company's invested capital will grow instantaneously but its risk-adjusted profitability may decline initially as synergy capture often takes time or its new capital structure increases its cost of capital.

A GUIDE TO CORPORATE STRATEGY

Chemical companies which aspire to become Winners can use the Winners' Analysis both as a diagnostic framework to understand historical corporate performance as well as a blueprint for future corporate strategy development and execution.

Companies should begin by assessing their portfolio against the four Winners' characteristics to explain their financial and shareholder return performance relative to their peers. As they go through this process, companies should ask themselves:

> Am I setting the agenda in my businesses? (Business Leadership)
> Am I the clear high value owner of my portfolio businesses? (Strategic Coherence)
> Am I relevant and efficient? (Financial Scale)
> Do I deliver results? (Proven Ability to Execute)

This assessment highlights the key issues which the company's strategy needs to address. Companies can then use the Winners' characteristics to develop their corporate strategy using a hierarchical approach. We believe that Proven Ability to Execute is a threshold requirement: some companies in our analysis underperform despite having all three other characteristics. Business Leadership is the most important attribute, followed sequentially by Strategic Coherence and Financial Scale: the majority of Underperformers have Financial Scale but lack Business Leadership positions. The following four steps summarize our recommended approach.

1

Determine the company's strategic intent

> Characterize the company's overarching value proposition
> Develop a vision for the company

2

Develop business unit options which drive Business Leadership positions across the portfolio

> Develop an understanding of the core competencies for each business in the portfolio
> Characterize how/where these businesses can leverage these competencies to create, capture, and defend value

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3

Assemble Strategically Coherent portfolio options: combinations of business unit options which are coherent with the intent

> Select the business unit options which align with the company's overarching value proposition and vision
> Group these business unit options to create portfolio options – each portfolio option consists of businesses with Business Leadership positions and that are coherent with the strategic intent
> Identify processes and standards which promote the company's overarching value proposition across these businesses
> Evaluate the other businesses: are they critical in the transition towards the company's vision (because of cash flow or Financial Scale)
> Develop short-term plans to exit incoherent businesses which are not critical in the transition

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4

Address gap to Financial Scale

> Assess size gap of portfolio to Financial Scale, excluding incoherent businesses
> Define corporate options to address size gap
> Promote the clarity of the portfolio risk-reward profile by developing and communicating long-term plans, timing, and conditions for exiting incoherent businesses which are critical to the transition

Can we identify the key strategic attributes common to the "Winners"?

"WINNERS" SHARE FOUR STRATEGIC CHARACTERISTICS: BUSINESS LEADERSHIP, STRATEGIC COHERENCE, FINANCIAL SCALE, AND THE PROVEN ABILITY TO EXECUTE.

A. BUSINESS LEADERSHIP: **Winners set the agenda in their areas of participation**

Winners own businesses which are leaders in their fields of play: they have the ability to set the agenda across their entire portfolio of businesses. In each of their businesses they possess a true competitive advantage enabling them to define the price-setting mechanism, and often set pricing, in their chosen market segments of participation. C

Winners drive Business Leadership by combining three elements. Firstly, Winners possess a comprehensive understanding of the core competencies in each business. Secondly, Winners develop a unique business model which leverages these competencies to both create value for their customers and capture and defend this value for them. Thirdly, Winners focus their participation in customer segments in which this business model is advantaged, with the total size of the customer segments large enough to allow for business unit scale, i.e., the business is viable even by focusing exclusively on these segments.

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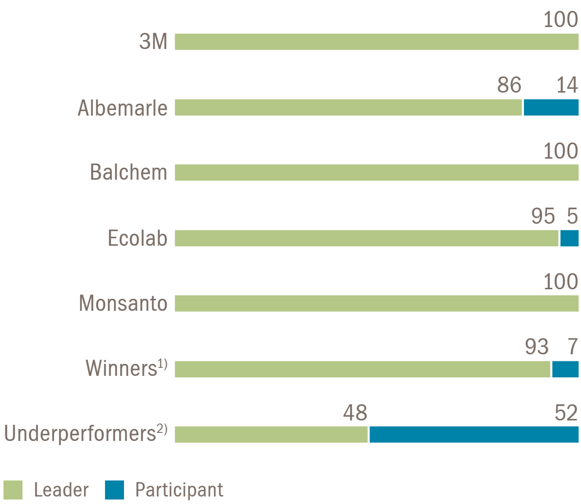
WINNERS' % REVENUES FROM BUSINESS LEADERSHIP POSITIONS, 2013[1)]
Winners vs. Underperformers[2)] [%]



REPORTING SEGMENTS WITH BUSINESS LEADERSHIP

Industrial & Transportation, Health Care, Consumer Products

Polymer Additives, Refining Catalysts, Bromine Derivatives

Choline chloride for Food & Nutrition and Industrial applications

Global Institutional, Global Industrial, Upstream and Downstream Oil & Gas within Global Energy

Agricultural Productivity

1) As of December 31, 2013 for most companies
2) Average weighted by sales

Source: Capital IQ, Roland Berger

Winners' Business Leadership manifests itself in the financial performance of their reporting segments, which achieve leading market shares or the highest-level of risk-adjusted profitability in the broadly defined markets for the products that they sell.

Let's look at the Global Institutional business of Ecolab to illustrate this. In our view, the business essentially has three core competencies. It conducts systematic controls of the inputs (manufacturing, service, etc.) to drive consistent performance at the customer and support the customer's brand. It also possesses comprehensive expertise around the hygiene, energy, and water system (problems and solutions), spanning across consumables, equipment, services.

Finally, it maintains a deep understanding of its customers' business models: Ecolab is able to identify which set of activities its customers may not consider as "core", i.e., not the prime focus of their customers' internal set of capabilities. For example, a restaurant may want to focus on the quality of food and dining experience instead of handling the hygiene processes. This knowledge positions Ecolab to price its offering based on how much value its customers ascribe to having a supplier take over these non-core activities.

Ecolab has converted these competencies into a unique model. It creates value by providing assurance around hygiene as well as water and energy conservation, which supports the customers' brand promise globally. Customers such as Marriott choose Ecolab for the "peace of mind" that Ecolab will consistently provide the highest standard of hygiene. The latter is an essential attribute to the Marriott experience and brand which differentiates a Marriott hotel from a local roadside motel for example. Marriott also knows Ecolab can best promote and drive water and energy conservation. Therefore, Marriott chooses to hand over to Ecolab the keys to their entire set of non-core processes related to hygiene, water, and energy.

Ecolab captures value by selling bundled solutions tailored to specific customer needs and priced at the value customers ascribe to the reduction of the risk, instead at the value of the individual components of the bundle. Ecolab may therefore have different prices

Winners possess a comprehensive understanding of their core competencies, develop a unique business model that leverages these competencies, and focus their participation in market segments where the business model is advantaged

for the same offering to two customers which value the reduction of a hygiene risk differently. Ecolab defends value by fostering a homogenous culture through standards and processes, continuously innovating and acquiring to maintain or extend its knowledge of the hygiene, water, and energy system, and strengthening key customer relationships. Even the highest levels of the Ecolab organization may have account management responsibilities – for example, Ecolab's C-suite fosters relationships to its customers' C-suite.

Finally, Ecolab's Institutional business focuses its participation on customers that value the assurance described above. Typically, these are large-scale corporations such as hotel chains, restaurants, hospitals which understand that managing the risks and costs associated with ancillary services such as hygiene, water, and energy, is essential but not their core competency, and thus preferentially outsourced. Ecolab elects not to participate in the segments of the market in which customers prefer to buy individual products and services (and not assurance). D

Ecolab has defined the price-setting mechanism in its chosen market segments of participation, where customers need assurance: pricing is set by the value of risk-reduction. Ecolab's closest competitor, Sealed Air (formerly Diversey, acquired by Sealed Air in 2011), is forced to align itself to this mechanism, but, without a comprehensive portfolio offering, it cannot always provide the full bundled solution which is paramount to assurance. As a consequence, it does not achieve the Ecolab price premium and its margins are lower. Local competitors like Tennant and Zep which participate in the segments of the market where customers prefer to buy individual products or services realize significantly lower margins as well, because these segments are not large enough to allow for business scale. Ecolab's leadership in their chosen areas of market participation radiates influence over the broader Institutional market.

D

ECOLAB'S BUSINESS LEADERSHIP IN GLOBAL INSTITUTIONAL

	BUSINESS MODEL			
Core competencies	Value create	Value capture	Value defense	Participation focus area
Ability to drive consistency	Consistent results to support customer brand	Repeat business	Standards and processes Long-term contracts	
Expertise around entire hygiene, water, and energy system	Ability to solve all problems	Bundled offering	Innovation and M&A	**Customers that value assurance**
Deep knowledge of customers' ecosystem	Tailoring to customer needs	Value pricing	Key account management driven by all levels of the organization	

Source: Roland Berger

B. STRATEGIC COHERENCE: **Winners are the clear high value owners of their portfolio businesses**

Winners have Strategic Coherence: they are the clear high value owners of their portfolio of businesses. This means that their businesses have a higher value in their portfolio than to another company. Therefore, Winners' portfolios are valued more than the sum of their parts in the long-run. Of the 12 chemical companies we identified as 'Winners' which also have diverse portfolios[1)], 10 had 2013 market enterprise values which exceeded the sum of the value of their individual businesses as derived from comparable multiples[2)].

Strategic Coherence is derived from the combination of a clear strategic intent, a portfolio of businesses that enables the intent, and a parenting advantage over these businesses.

B.1 CLEAR STRATEGIC INTENT

Winners have clear strategic intent: they articulate a clear vision which describes what they want to be, supported with a distinct, overarching value proposition which captures what they stand for as a company. Ecolab's vision is to be the leader in water, hygiene, and energy technologies and services. Its overarching value proposition is to provide assurance to its customers by managing its customers' non-core water, hygiene, and energy-related processes.

Monsanto seeks to be a leading enabler of "Sustainable Agriculture"; its value proposition consists of solutions which drive agricultural productivity for farmers. Non-Winners may articulate a vision, but often lack a clear identifiable value proposition. Before the sale of its Consumer Products and the announced sale of its Agrosolutions business, it was not clear to investors what Chemtura stood for as a company. It lacked a clear value proposition across its portfolio, selling a

1) 10 of our 22 Winners are focused companies with a single business reporting segment
2) Individual business unit comparable multiples adjusted up or down based on business leadership

Strategic Coherence is derived from the combination of a clear strategic intent, a portfolio of businesses that enables the intent, and a parenting advantage over these businesses

mix of plastic, lubricant, and fuel additives to industrial customers, agrochemicals to farmers, and pool chemicals to retail channels. As a result Chemtura traded at a discount to the sum of its parts. With its portfolio management actions and its new focus on additives, Chemtura now provides a clearer value proposition with a focus on ingredients which promote durability, safety, cleanliness, and efficiency in its customers' products. Its market valuation is now in line with the sum of its parts.

B.2 A PORTFOLIO OF BUSINESSES THAT ENABLES THE INTENT

Winners' businesses are coherent to their strategic intent: they operate similar business models and support the company's overarching value proposition. For example, all of Ecolab's businesses operate a "customer intimate" business model, which provides assurance to its customers. We discussed Ecolab's Global Institutional business earlier. Looking at Ecolab's new Global Energy business (which resulted from the merger of Nalco and Champion), it is interesting to note that it also provides assurance of hydrocarbon production and water conservation to oil & gas companies. It addresses customers' corrosion issues on production sites or pipelines, or treating crude oil at refineries. Much like hygiene management and water conservation may not be the core competency of the hotel or restaurant chain customers, the choice of a chemical treatment to resolve an oil and gas production problem such as corrosion is generally not within the expertise of the oil & gas operator. E

We believe a disproportionate amount of attention is given to the synergy potential of businesses within a portfolio rather than the coherence of these businesses to the strategic intent. In our view, synergies (production assets, customers, markets) help maximize the value of a strategically coherent portfolio or enable a buyer to ascribe value to an acquisition target, but should not be paramount to the strategic rationale behind a combination or a divestiture.

Once a company has defined its strategic intent, it then needs to focus on building a portfolio of businesses that is coherent to this intent. Since the journey towards a coherent portfolio may take time, incoherent businesses – businesses that are not aligned with the company's value proposition and/or operate a differ-

E

ECOLAB'S FRATERNAL BUSINESSES SUPPORTING THE OVERARCHING VALUE PROPOSITION

Fraternal businesses

Global Institutional

Global Industrial

Global Energy

Common business model

> Comprehensive portfolio
> Solutions focus
> Bundled pricing
> Distribution network
> Flexible and redundant supply chain
> Repeat business with large customers

Overarching value proposition

Assurance of...

Hygiene, water, and energy conservation

Energy production and water conservation

Source: Roland Berger

ent business model – may yet have a critical role to play during the transition. For example, a cash cow business can be retained by a company during the transition to fund the growth of its coherent business. Incoherent businesses can also provide efficiencies to the overall corporation during the transition, in the form of Financial Scale, which is explained later. Winners tend to promptly divest businesses which are neither coherent nor have such a cash generation or efficiency role to play in the transition towards the strategic end-state.

B.3 PARENTING ADVANTAGE OVER THESE BUSINESSES

As we described above, the portfolio of a Winner shares a common business model across its portfolio to drive a clear over-arching value proposition to its customers. The Corporate Management of Winners typically has strong competencies and industry knowledge to deliver this business model successfully across different businesses. For example, Ecolab's management team largely comes from its Global Institutional and Global Industrial businesses, but has one representative from the oil and gas side of the business. As such, the team has the depth and breadth of functional and industry experience to successfully deliver the "assurance" value proposition in all the sectors in which Ecolab operates.

Furthermore, the Corporate Management of Winners possesses functional experience and skills that are aligned to the positioning of their portfolio of businesses along the product lifecycle or maturity curve.

For example, if a company has a large proportion of revenue from businesses that are positioned along the "mature" to "declining" part of the continuum, it makes sense that the Corporate Management have the necessary skills set and experience to "fix" the businesses (e.g. product, asset, geographic, and end-use market rationalization) to establish a more sustainable leadership position for the future. Having a Management team that has strong experience in the "growth" domain would be a misfit with the above example and lead to execution issues. F

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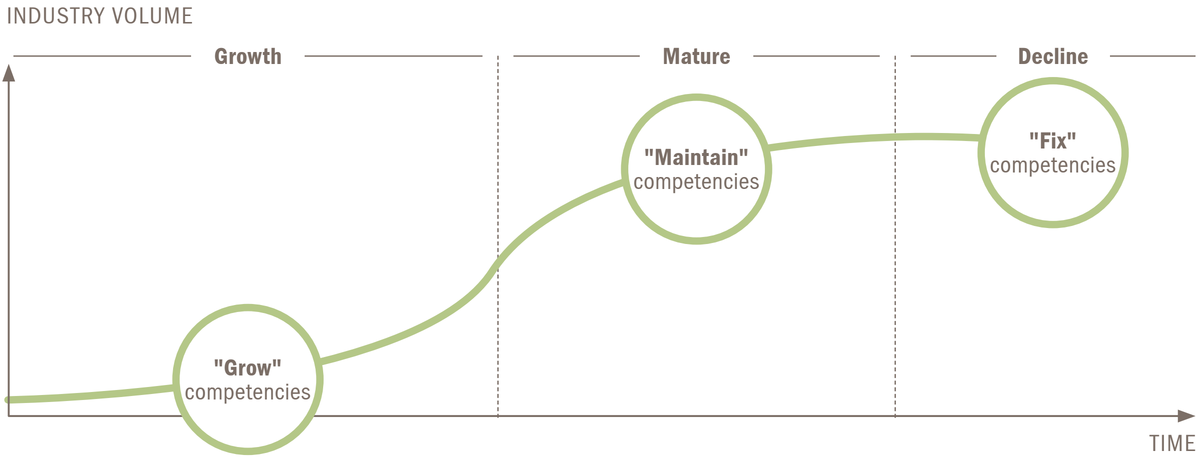
MANAGEMENT COMPETENCIES OVER THE PRODUCT LIFECYCLE



Source: Roland Berger

C. FINANCIAL SCALE: **Winners are relevant to investors**

Winners have Financial Scale: they are relevant to investors, which enables them to efficiently and competitively raise capital: in our analysis, Winners' median annual cost of capital was 9%, significantly lower than Underperformers at 12%. In theory, in efficient financial markets, all stocks would see similar levels of liquidity, i.e., the levels of supply and demand for each stock would be large enough to ensure that the price of the stock is not be affected by its sale.

In practice, financial markets are inefficient and not all stocks face the same degrees of liquidity. In particular, smaller market capitalizations tend to see lower levels of liquidity: the sale of a small portion of their stock can change its price: the associated companies' "true" value is then typically determined at the point of sale. This drives a liquidity risk premium for the associated companies' cost of capital: investors expect to be compensated for taking on this additional risk. G

Winners address the inefficiency in financial markets, and achieve relevance to investors via the combination of size and clarity of their risk-reward propositions. It is important to note that our definition of scale is more than just about size: companies like Balchem with revenues under USD 500 million in 2013 turn up in our Winners' list.

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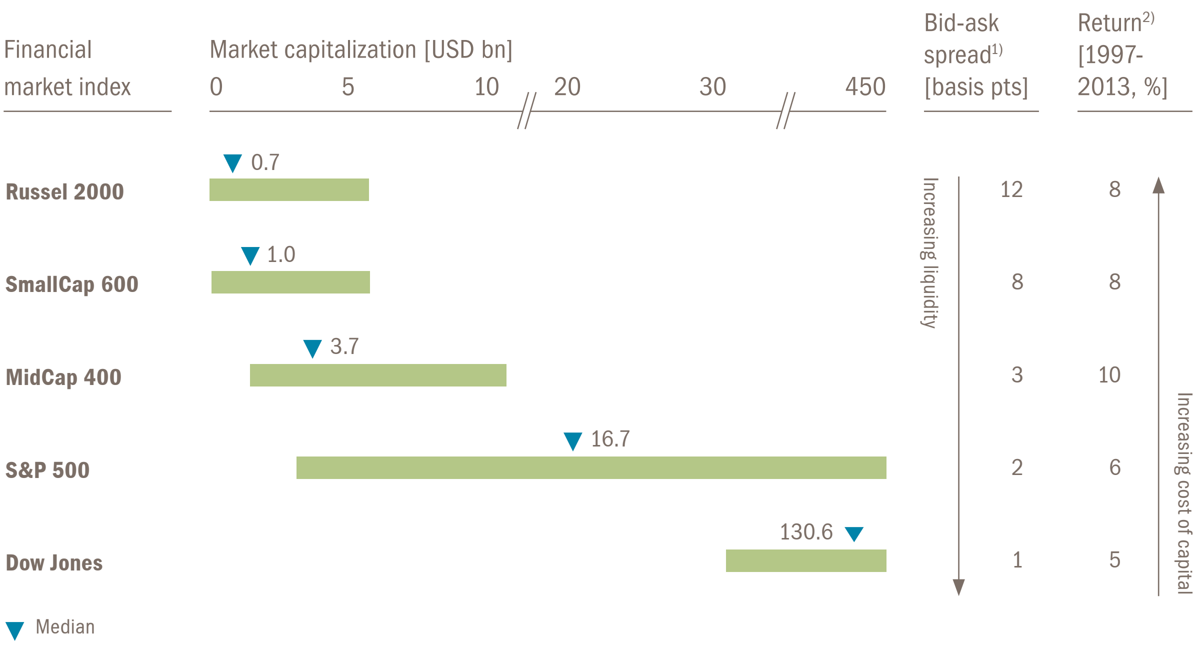
MARKET INEFFICIENCY IN SELECTED INDICES[1)]

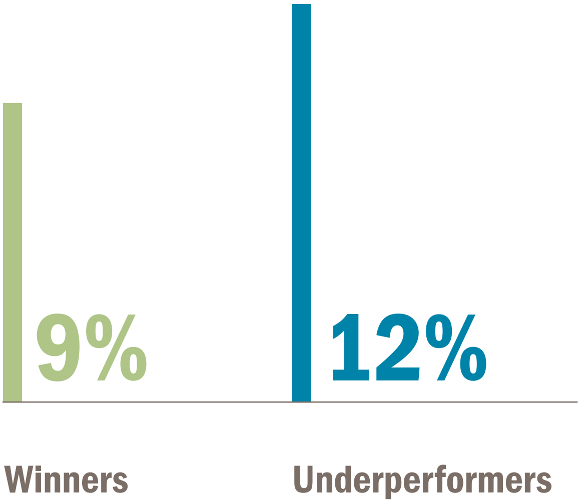


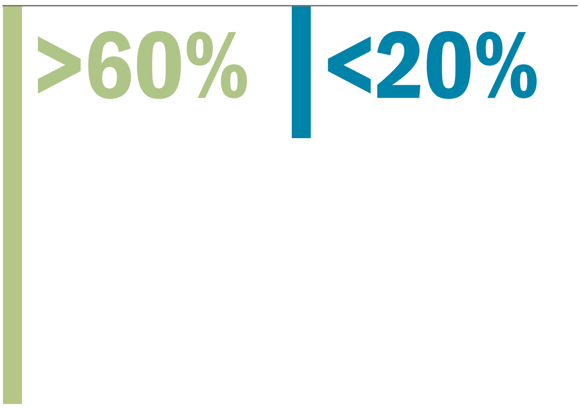
1) Difference between bid and ask prices relative to ask price over Apr-15-2013 through Apr-15-2014
2) Total shareholder return based on dividend adjusted share price growth from Dec-1997 through Dec- 2013
3) Russell 2000 has 8 companies above USD 5 bn in market cap

Source: Capital IQ, Roland Berger

Cost of capital

Winners' median annual cost of capital was 9%, significantly lower than Underperformers at 12%





Capitalization indices

More than 60% of Winners were part of large or mid-size capitalization indices, compared to less than 20% of Underperformers

C.1 SIZE

Winners drive Financial Scale via achieving larger market capitalizations. The greater a company's market capitalization, the more likely it is to be included in well-known, actively traded financial indices such as the S&P500 and the Dow Jones Industrial Average (DJIA) in the US, the FTSE100 in the UK, or the DAX in Germany. Inclusion in such indices generally enables companies to achieve greater relevance to investors: it projects trust and implies that the company's stock will be actively traded by investors trying to replicate or exceed the performance of the index. It also drives higher analyst coverage which makes information about the company more widely available. The associated higher trading volume increases the liquidity of listed stocks, ultimately driving to a lower cost of capital.

We find that Winners are more likely than Underperformers to have larger market capitalizations, and therefore achieve higher representation in actively traded indices: in our analysis, more than 60% of Winners were part of large or mid-size capitalization indices, compared to less than 20% of Underperformers.

C.2 CLEAR RISK-REWARD PROPOSITIONS

Winners also drive Financial Scale through the provision of a clear risk-reward proposition to investors: the portfolio of Winners provides a clear view of how their profits may grow (rewards) and how they may fluctuate (risk). Investors value this clarity as it allows them to build their own investment portfolios based on their own objectives: term of the investment, growth or income strategies, etc. Winners achieve such clarity in two ways. Companies like Monsanto provide a risk-reward proposition that closely mirror a particular sector cycle, enabling investors to easily buy this sector exposure. H

Winners may have a portfolio that is exposed to different sectors but still provides a very consistent overall risk-reward profile. For example, Balchem's businesses (Food, Pharma and Nutrition, Animal Nutrition and Health, ARC Specialty Products, and Industrial Products) are exposed to Health & Nutrition and Pharmaceuticals.

Winners drive financial scale via larger market capitalizations (size) and a clear risk-reward proposition

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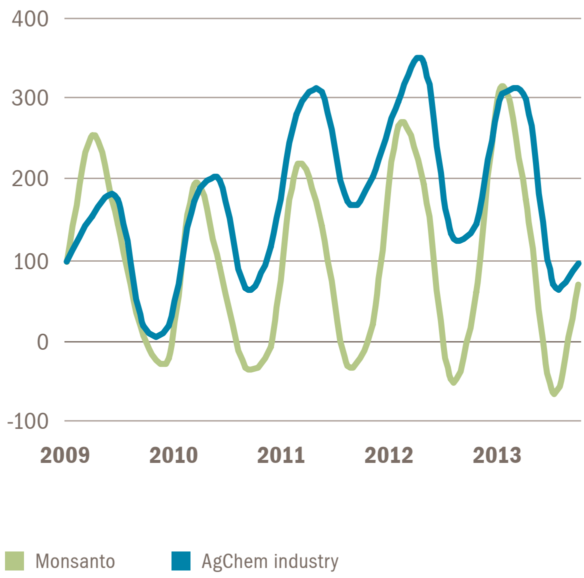
MONSANTO EARNINGS COMPARED TO AGRICHEMICALS INDUSTRY[1)]

NORMALIZED EBIT



1) Earnings measured by quarterly EBIT and indexed starting on 12/31/2008; Agchem industry consists of 55 US and European companies with public financials classified by SIC code as "Fertilizers and Agricultural Chemicals"

Source: Capital IQ, Roland Berger

Although these industries are different, they are both driven by non-discretionary spend and therefore relatively acyclical. This drives stability in the earnings of Balchem's businesses and provides clarity to investors around its overall risk-reward proposition. Conversely, for Ashland, the businesses in the portfolio are incoherent from a risk-reward standpoint: they are exposed to different industries with unrelated cycles (Industrial & Institutional, Construction, and Consumer). It is interesting to note that Ashland is addressing this issue with the recent divestiture of its Water business (exposed to Industrial & Institutional trends). I

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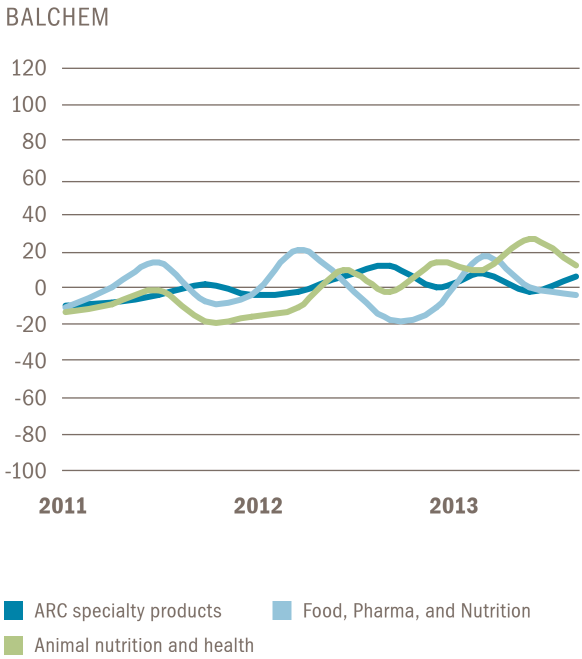
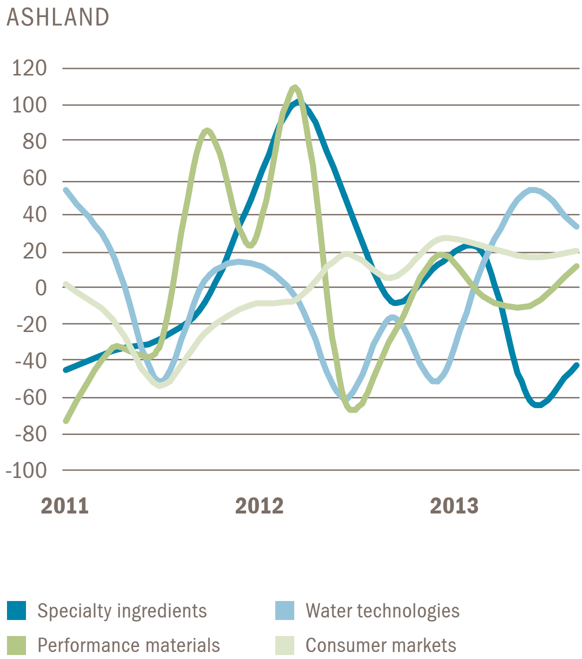
EBIT VOLATILITY PROFILE

Comparison of EBIT volatility profile of Balchem and Ashland businesses [%][1)]





1) Calculated as percentage difference to mean

Source: Capital IQ, Roland Berger

D. PROVEN ABILITY TO EXECUTE: **Winners deliver results**

Winners deliver superior results by developing and implementing strategies to drive Business Leadership, Strategic Coherence, and Financial Scale. We believe there are four key facets to execution: i) clear communication of the strategic intent, ii) disciplined approach to achieve competitive advantage, iii) active portfolio management, and iv) systematic standardization of functions and processes.

D.1 CLEAR COMMUNICATION OF THE CORPORATE VISION AND STRATEGY

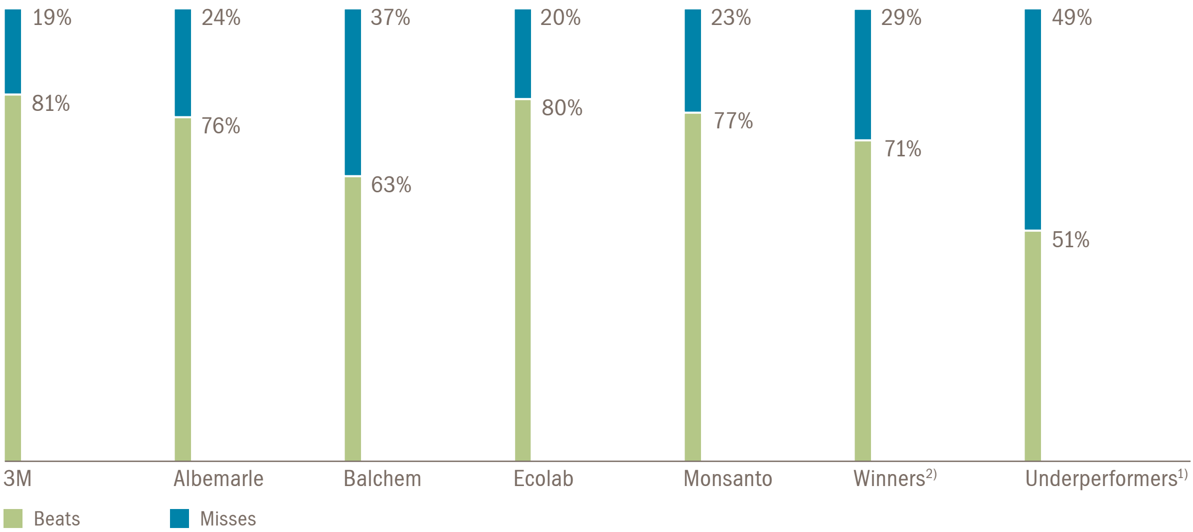
Winners clearly communicate their strategic intent and successfully execute against it. By providing investors with line of sight into their future trajectory, Winners manage investor expectations. As mentioned earlier, shortly after being spun off by Pharmacia in 1997, Monsanto stated its vision to become the leading provider of sustainable agricultural solutions. Everything that it has done since has been aligned with this vision: its acquisitions of multiple seed trait companies and its expansion into new regions. Monsanto's clear communication of its vision and strategy to investors has allowed investors to develop informed earnings expectations, and has positioned Monsanto favorably to meet or exceed these expectations. Our analysis of Winners highlights a similar track record of consistently beating investor expectations over the last 15 years. J

D.2 DISCIPLINED APPROACH TO ACHIEVE COMPETITIVE ADVANTAGE

Winners follow a disciplined approach to identify and deploy their competitive advantage as described in section 1 to drive Business Leadership: they understand their core competencies and how to

J

EARNINGS BEATS VS. MISSES[1)]



1) Defined as EPS announcement vs. consensus estimate from 1999-2013 on a quarterly basis when available (otherwise yearly)
2) Through 2013 Q3

Source: Capital IQ, Roland Berger

translate them into an advantaged value proposition and business model. They actively segment the market to refocus their participation, based on where their value proposition is relevant.

While much of the execution is driven by the businesses themselves, Winners provide adequate corporate support (resources or capital) to their businesses to attain leadership positions, by organic and/or acquisitive means. In general, businesses tend to individually develop organic growth plans which they are comfortable that they can deliver. We have found that a higher level of organic growth is often achievable if the corporate function is willing to support and incentivize "stretch" targets.

For example, in the oilfield chemicals industry where sales are very relationship-driven, we have worked with companies where the corporate function decided to fund the expensive recruitment of sales teams to accelerate top-line growth. The corporation only transferred these costs back to the business unit once the revenues materialized. The businesses would not have been able to bear these costs by themselves whilst meeting their performance targets in the short-term.

D.3 ACTIVE PORTFOLIO MANAGEMENT

Winners engage in active portfolio management to drive Business Leadership, Strategic Coherence, and Financial Scale. Winners typically transact almost twice as much as Underperformers, with a mix of bolt-on and large acquisitions, as well as divestitures. K

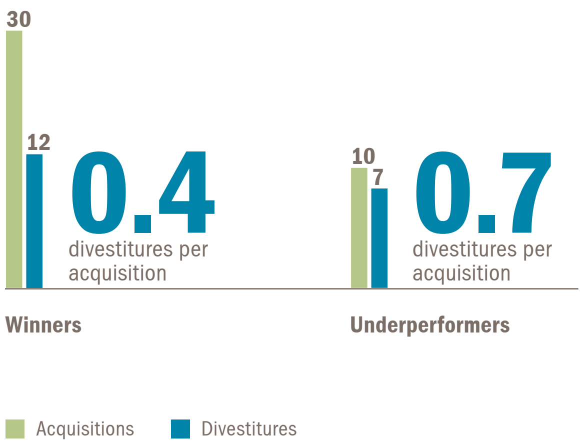
They pursue bolt-ons to build, maintain, and extend their Business Leadership positions. For example, Ecolab has executed more than 40 bolt-on acquisitions in its Global Institutional business over the last 15 years to build and maintain its comprehensive expertise and offering around the hygiene, water, and energy systems.

The majority of Winners also conduct large, transformational acquisitions. While these transactions provide Winners with Financial Scale, the main driver is generally to either accelerate the pace towards Business Leader-

Winners prove their ability to execute by clearly communicating their strategic intent, pursuing a disciplined approach to achieve competitive advantage, actively managing their portfolio, and systematically standardizing their functions and processes

K

WINNERS VS. UNDERPERFORMERS[1)]
Transactions per company [% of total transactions]



1) Based 22 Winners and 22 Underperformers from January 1997 to April 2014

Source: Capital IQ, Roland Berger

ship (e.g. PPG's acquisition of Sigma-Kalon) in their existing businesses or to acquire new leadership positions which are coherent with the company's strategic intent (e.g. Albemarle's acquisition of Akzo Catalysts). In contrast, Underperformers tend to pursue large acquisitions primarily to achieve Financial Scale, without necessarily checking the Strategic Coherence box first. L

Since Winners pursue acquisitions with strong strategic rationale and integrate acquisitions well, they tend to divest significantly fewer properties relative to their number of acquisitions: the ratio of divestiture per acquisition is 0.4 for Winners compared to 0.7 for Underperformers.

Approximately 80% of the divestiture activity of Winners consists of "bolt-offs", sales of businesses with USD 100 million or less in revenues, typically representing an exit from geographic or product line positions. Winners' divest large businesses – even though these may have leadership positions – to enhance Strategic Coherence. For example, Henkel sold Cognis in 2001 to make its portfolio coherent with its strategic shift towards consumer products. The proceeds were subsequently used to fund the purchase of Dial, a North American consumer care company, two years later.

L

TRANSFORMATIONAL ACQUISITIONS

Select Winners

		DEAL % OF ACQUIRER'S PRE-DEAL MARKET CAP	EV/EBITDA MULTIPLE	
			Buyer	Target
Accelerate pace towards Business Leadership	LIN – BOC	198%	6.0x	10.7x
	CRDA – Uniqema	63%	10.7x	18.4x
	VAL – Lilly	62%	9.2x	10.5x
	IFF – Bush Boake	43%	7.3x	14.2x
	HEN – Dial	39%	6.9x	11.7x
	PPG – Sigma-Kalon	23%	8.5x	9.5x
	SHW – Thompson Minwax	22%	9.6x	
	EMS – Axantis	13%	16.9x	
	MON – Seminis	11%	11.4x	12.4x
Add new Strategically Coherent Business Leadership position	ECL – Nalco	69%	10.8x	11.3x
	ALB – Akzo Catalysts	61%	7.6x	8.9x
	LONN – Arch Chemical	36%	7.6x	10.5x
	SIK – Sama	19%	6.5x	13.3x

Indicates when the acquired or target company was valued higher than buyer

Source: Capital IQ, Roland Berger

"Bolt-offs"

Approximately 80% of the divestiture activity of Winners consists of "bolt-offs", sales of businesses with USD 100 million or less in revenues, typically representing an exit from geographic or product line positions

80%

Since 2012, we have seen many chemical companies announce portfolio management actions focused on improving the clarity and transparency of their risk-reward proposition to investors. For example, FMC has recently decided to split into two companies, New FMC which will comprise FMC's specialty businesses (Agricultural Solutions and Health & Nutrition businesses), and FMC Minerals which will consist of FMC's former commodity businesses. The different growth parts of the former company were exposed to very different forward risks and cycles. By splitting, FMC now provides investors with separate, clearer risk-reward profiles and improves its relevance to investors despite the smaller size of each new entity.

D.4 SYSTEMATIC STANDARDIZATION OF PROCESSES AND CENTRALIZATION OF KEY FUNCTIONS

Winners deploy corporate processes across their businesses and centralize key functions, enabling them to strengthen their parenting advantage over their portfolio of businesses, and achieve efficiencies in their indirect costs. For example, 3M supports its overarching business model, centered on innovation management, with a set of corporate standards and processes applied across all of its businesses. Its "30% Rule" stipulates that 30% of each business's revenues must come from products introduced in the past 4 years. Its research engineers can spend as much as 15% of their time pursuing their own creative ideas. 3M also employs a defined resource and capital allocation process, as well as an incentive system across its businesses to support the generation and development of new ideas.

This systematic approach to standardization and centralization enables Winners to achieve scale economies in their sales, general, and administrative costs (SG&A): over the last 5 years, Winners spent 47% of their gross profit on SG&A, vs. 67% for Underperformers. It should be noted that the ability to deploy standard process and centralize key functions will be significantly enhanced if a strategically coherent portfolio is already in place.

The Winners' Analysis is based on business and financial fundamentals and is universal in its application.

In summary, our Winners' Analysis identifies and characterizes the discrete characteristics shared by Winners, which enable them to consistently deliver top-tier financial and shareholder return performance relative to the industry in which they participate. It is based on business and financial fundamentals and is universal in its application: we have completed similar analyses for two additional sectors – industrial equipment and oilfield services – and observed that Winners in these industries share similar characteristics. Detailed results of our analyses in these sectors will be published in forthcoming articles. ◆

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ABOUT US

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