Frugal innovation
Driving new business approaches and unlocking lucrative markets

Research and innovation
Finding and financing tomorrow’s Einsteins and Jobs

When you nurture innovation, what do you think will flourish?

The better the question. The better the answer. The better the world works.
There is an emerging trend among many large corporations to look to increase their own innovative capabilities, as well as to access new product ideas, by collaborating with entrepreneurs and start-ups. In fact, according to EY’s recent consumer products study *Delivering agile innovation*, roughly 66% of executives surveyed say that collaboration is increasingly important to achieve strategic goals. The same study also shows that 53% of those surveyed believe they can no longer rely on internal innovation.

In this edition of *Performance*, we examine a variety of ways in which innovation is currently being nurtured. For example, two of our articles provide insight into how the problem is being tackled within the European Union (EU) and the US. “Research and innovation: finding and financing tomorrow’s Einsteins and Jobs” looks at what’s happening in the Danube Region of Europe to secure funding. “Accelerating start-up ecosystems with the ‘Power of 5’” details what’s been happening in the US city of Cincinnati, which is in the midst of a start-up renaissance, attracting significant venture capital interest.

We explain how companies are solving the “innovation dilemma,” i.e., how to choose between maintaining and developing the existing business and venturing into new areas, by using corporate incubators to develop new ideas, products and services — and ensure long-term profitable growth.

Frugal innovation is all about doing more with less. Our article details how this simple idea is gaining traction, not just within the manufacturing sector, but increasingly in consumer products and financial services.

Any company’s innovation strategy is going to link closely to its overall strategy and we have two articles that offer practical guidance when setting strategy. “A cure for strategy” introduces a simple one-page approach and “The Tao of digital strategy” warns against incorporating digital considerations as merely a secondary factor in an overall business strategy.

In other articles, we look at the opportunities for telecoms companies presented by digital signage, helping them to understand how they can monetize their large customer bases. We examine the untapped potential for cable and satellite operators of their unique position in the marketplace. And we explain how the Middle East and North Africa region is positioning itself to become one of the fastest cleantech growth markets.

I hope the articles in this edition of *Performance* provide valuable insight and information to help your business innovate, grow, optimize and protect.

Enjoy reading this issue!

**Markus Heinen**

Chief Patron, *Performance*
Contents

02  Research and innovation: finding and financing tomorrow’s Einsteins and Jobs

10  Accelerating start-up ecosystems with the “Power of 5”

20  Frugal innovation: driving new business approaches and unlocking lucrative markets

26  Corporate incubators: nurturing innovation potential

34  A new direction: is digital signage a potential goldmine?

46  Reinventing the MVPD business – it’s time!

58  A cure for strategy? Introducing a simple one-page strategy approach

68  The Tao of digital strategy

78  Tapping the potential: Middle East and North Africa embrace the future of cleantech
Policy-makers all around the world are seeking fresh and innovative ways to boost economic growth, create new jobs and improve the competitiveness of their industries. However, due to complexity and the lack of immediate results, improvements to the level of research and innovation (R&I) remains a “high-hanging fruit” initiative. Nevertheless, with proper execution, it can have a significant impact on the well-being of citizens; furthermore, the results of R&I can be beyond imagination.
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Realizing the long-term importance of R&I and under the pressure of ever-increasing international competition, the European Union (EU) has conducted several initiatives and programs to strengthen its R&I position. Despite its best efforts and numerous R&I projects developed by institutions and individuals from Member States in recent years, the EU is still lagging behind global leaders, such as the United States, Japan and South Korea, in terms of business research and development (R&D) expenditure, patent applications and tertiary education.1

In order to close this gap, from 2014 to 2020, the EU plans to invest €78.6b in new R&I projects and initiatives under the Horizon 2020 program. However, it is facing a particular challenge of its own – the significant diversity of EU Member States, in terms of economic and R&I development. To improve cohesion and cooperation of its Member States, the EU has identified several macro-regions within European territory, based on certain common characteristics. So far, three macro-regional strategies have been introduced: for the Baltic Sea,2 the Danube3 and the Adriatic-Ionian4 regions, each divided into multiple priority areas, some of which focus specifically on R&I.

We helped to assess the feasibility and potential impact of a proposed fund supporting R&I projects in the Danube Region (DR). During our cooperation with DR representatives, which lasted approximately a year, we engaged in numerous dealings with stakeholders from public and private sectors across 14 DR countries in order to arrive at the results.

The aims of the project were to assess whether additional support to international R&I is required and to identify which scientific areas should be supported and by what means.

Diversity of the region – challenge or advantage?

The differences in the national levels of R&I are influenced by multiple factors, such as education systems, R&I infrastructure, business investment in R&I and government tools for the support of R&I. In order to comprehensively evaluate the levels of R&I and to identify the absorption capacity (i.e., room for improvement), we used quantitative and qualitative indicators that cover the factors impacting the levels of R&I in the public and private sectors. One aspect that must be taken into consideration in selecting appropriate indicators for R&I evaluation is the data availability and methodology used for their calculation, making it possible to compare countries against each other, as well as the global leaders’ benchmarks.

2. Baltic Sea countries: Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland.
3. Danube countries: (EU Member States) Germany, Austria, Hungary, Czech Republic, Slovakia, Slovenia, Bulgaria, Romania and Croatia; (accession countries) Serbia, Bosnia and Herzegovina, and Montenegro; (neighboring countries) Moldova and Ukraine.
4. Adriatic-Ionian countries: (EU Member States) Croatia, Greece, Italy and Slovenia; (accession countries) Serbia, Bosnia and Herzegovina, and Montenegro; (neighboring countries) Albania.
We analyzed three main indicator groups (see Table 1):

1. Prerequisites: the main external factors critical for the level of R&I in the respective countries
2. Activities of companies: the innovative activity happening at company level
3. Outcomes: the results of companies’ innovative activities

Additional complementary qualitative analyses, such as SWOT, PESTEL\(^5\) and analysis of participation in existing R&I funding programs, were also performed.

As expected, the analysis proved that accounting for diversity will be one of the main challenges to boosting R&I in the DR. However, at the same time, it helped to identify other common challenges that can be addressed by all countries involved. Based on the analysis, the following areas for improvement were identified:

- **R&D expenditure**: the DR, as a whole, has half the R&D expenditure (both private and public) of the innovation leaders (e.g., USA).
- **Human capital utilization**: values in the private sector are relatively close to the EU average. However, when it comes to the public sector, significant improvements, such as human capital mobility, overall political support and investments, are necessary.

Table 1. The three main indicator groups

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Activities of companies</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>The main external factors critical for the level of R&amp;I</td>
<td>Innovation activities happening at company level</td>
<td>Impact of companies’ innovative activities</td>
</tr>
<tr>
<td>▶ R&amp;D support in the respective countries</td>
<td>▶ Number of public-private co-publications</td>
<td>▶ Rate of employment in knowledge-intensive activities</td>
</tr>
<tr>
<td>▶ Human capital resource in R&amp;D</td>
<td>▶ Level of R&amp;D expenditure in the business sector</td>
<td>▶ Level of innovation in small and medium-sized enterprises</td>
</tr>
<tr>
<td>▶ Most-cited publications globally and level of cooperation in international co-publications</td>
<td>▶ Number of patents registered</td>
<td>▶ Proportion of license and patent revenues from abroad as a percentage of GDP</td>
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5. SWOT analysis explores strengths, weaknesses, opportunities and threats. PESTEL analysis explores the political, economic, social, technological, environmental and legal aspects.
Public-private cooperation: compared with the innovation leaders, the majority of the region is lagging behind in cooperation between the public and private sectors.

Cross-border cooperation and best practice sharing: cooperation between the majority of countries in the region is limited and there are very few joint programs at an international level.

Participation in R&I funding programs: less developed countries in the region have a low participation rate in applications for funding and even lower success rates.

Not only did the analyses provide EY and the DR representatives with a comprehensive overview of the current status but they also served as a basis for discussions and negotiations at the national, regional and European levels.

Support – but what?

Our conclusion from the analyses performed was that there is room for improvement and capacity to absorb additional R&I support in the DR.

In R&I, specialization is important in order to gain a competitive advantage. As it is not possible to support all types of research in a country or within the region, the question of which areas and goals should be supported is a contentious one.

We recommend firstly analyzing the data available and creating a list of thematic areas. This list should serve as a basis for discussion and, after voting, a short list of thematic areas should be created. It should be kept in mind that, in policy-making, results of data analysis are usually only a basis for discussion and not a straightforward solution that all stakeholders will be willing to implement. When selecting thematic areas, significant value can be added by inviting R&I experts – scientists, not bureaucrats – to the table. It is often the case that people vote for the scientific field that they understand, not the one with the most promising results.

Policy-makers deal with whether to support an area in which the country or region already has developed skills and expertise or to start building an area they envisage as important for the future. There is no clear and definitive answer to this question and usually both approaches are balanced.

For the DR, we identified both vertical and horizontal examples of priorities that should be followed. Vertical priorities such as automotive industry, IT, new materials or environment are specific to the region; on the other side, horizontal priorities (see separate box for examples) are more universal and might also serve as a good example outside the DR.

Examples of horizontal priorities for an initiative supporting international R&I

- Supporting the innovative activities of small and medium-sized enterprises
- Connecting scientists and public institutions with the private sector
- Mentoring R&D institutions and facilitating submission of proposals for grants
- Improving development and exploitation of human capital
- Increasing the participation rate of students and young scientists in R&D projects
- Increasing the total number of patents and co-applicants
- Promoting and spreading awareness about EU programs in countries with low success rates
- Collecting missing data in non-EU states and gathering new data in EU and non-EU states

From 2014 to 2020, the EU plans to invest €78.6b in new R&I projects and initiatives under the Horizon 2020 program.
Priorities and thematic areas should accord with strategies already in place. However, there are often too many different strategies and strategic documents developed at national, regional or European level, and agreeing with all of them can lead to very generic goals. This should be avoided, as a generic strategy is not executable.

How to support and how to get political support
Other problems that institutions and individuals from DR countries face are connected to obtaining funding from available public or private sources. The reasons behind the inability to receive competitive funding are mainly insufficient experience in submitting excellent R&I proposals and in building or joining scientific networks to create international project teams. It is international cooperation that enables effective scientific knowledge sharing and accelerates new discoveries.

Our conclusion from the analyses performed was that there is room for improvement and capacity to absorb additional R&I support in the Danube Region.
Removing the barriers, which are common for many countries in the region, can boost R&I activity in the DR. In cooperation with the DR Working Group, we proposed three forms of institution that might help to solve these issues.

The first proposed alternative was a virtual fund; pooling financial contributions from national and EU sources into one common pot in order to finance international R&I projects in the region. Such a fund would be used for direct funding of projects. However, countries with underfinanced R&I would not have sufficient resources to contribute.

The second alternative was a funding network that would be built on the already established networks between DR representatives and R&I supporting initiatives in the region. This low-cost network would monitor and identify potential areas of cooperation and also find existing funding opportunities for common R&I projects. Such a network, without legal or institutional form, is very dependent on the active participation of its members. One of the key goals of a funding network would be supporting the transformation of bilateral agreements between countries into multilateral ones. This would have the effect of involving more countries from the region in international scientific cooperation and thus increase the number of international projects.

The third short-listed alternative was a support center that would enable the establishment of new successful international partnerships, and provide guidance for project applicants in scientific writing and scientific review of project proposals, in order to prepare them for submission of proposals into competitive funding calls. The support center would also organize networking workshops and connect the right people.

When proposing a new initiative or form of support, it is crucial to map all existing initiatives and programs in order to avoid overlap with their activities. A new form or initiative has to be designed so that it is flexible enough to be able to adapt to continuous changes in the R&I environment and the changing needs of stakeholders. Sustainability is a key prerequisite for successful implementation of any new initiative.

Key takeaways
► In evaluating absorption capacity, it is beneficial to focus on a particular R&I field or thematic area in order to analyze aspects in more detail.
► When considering the development of a new initiative, ensure that appropriate infrastructure is in place in order to create conditions for successful and sustainable implementation in the long term.
► Supporting science and engaging in science are two different worlds. To be
Supporting science and engaging in science are two different worlds. To be successful, the country or the region has to master both.

► In long-term projects with numerous stakeholders, be ready for potential changes in the project’s scope so that the ultimate outputs deliver added value to the client.

► Since quality of data and information may vary from source to source, it is beneficial to verify key conclusions with relevant stakeholders so that there is certainty that the conclusions made are correct.

► Decision-making in the public sector is a lengthier process than in the private sector. Each decision has firstly to be discussed internally within the national ministry or institution and then presented. Opinions or decisions of public representatives are often not binding, which complicates planning or development of new initiatives. Often, approved strategic documents, at the national level, have the advantage of serving as a guideline for consistent decision-making and voting.

► When developing new international initiatives, there is a need for support from the leading country (or countries) and, ultimately, “it’s all about money,” both in volume and availability. Financial aspects should, therefore, be among the first topics for discussion and conclusion when considering any new initiative design. However, the best solutions are not necessarily the most expensive.
Accelerating start-up ecosystems with the “Power of 5”

Building a start-up ecosystem is essential for any regional economy looking to stay relevant in the 21st century. Innovation is increasing at an exponential rate and, to cope with this, regional economies need to invest in resources that catalyze the formation of start-ups and develop new technologies to accelerate business growth. Capitalizing on these new technologies helps attract talent, modernize established corporations and create new tech-enabled small businesses.
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Building start-up ecosystems requires specific economic actors to equally and mutually support each other. Start-ups, corporations, governments, educational institutions and investors represent the five main actors in a start-up’s ecosystem. Healthy ecosystems require that each of these five entities works in conjunction with, and mutually supports, each other because their needs are interdependent and success is co-created. Maximizing the role of these actors is essential to create and maintain a vibrant start-up ecosystem.

The concerted effort of these parties to spur regional economic development by attracting talent and capital to the region is what we call the “Power of 5.” While this article is based on how the US city of Cincinnati utilized the Power of 5, we also studied other regional start-up ecosystems. Through our study, we uncovered three roles instrumental to enabling and maximizing the collaborative power of the five actors: the ignitor, the connector and the lever.

These three enablers catalyze the changes necessary to reinvigorate a regional economy by developing and building a critical mass of start-ups to attract innovation, talent and capital.

Catalyzing a start-up ecosystem in Cincinnati

Founded in 1788, Cincinnati benefited from its place along the vital Ohio River and rapidly grew to become the sixth-largest city in the US by the early 19th century. Although the shift in transportation to railroads altered the region’s growth trajectory, successful entrepreneurs established the foundation for the city’s future, as innovative businesses like Procter & Gamble were created and impressive structures such as the Cincinnati-Covington Bridge were erected.

Fast forward to present day; Cincinnati is in the midst of a start-up renaissance, attracting a plethora of venture capital interest. Since 2013, 86 venture capital firms (VCs) have visited the city, including industry icons such as David Cohen (Techstars),1 Steve Case (Revolution Growth)2 and Mark Suster (Upfront Ventures).3 Since 2009, the region’s start-up ecosystem has also received US$663m in third-party investments, product sales and federal grants creating over 850 full-time positions.4

This vibrant start-up movement in Cincinnati was accelerated, in 2012, when local organizations, such as Procter & Gamble, Kroger, Children’s Hospital, Xavier University, The Brandery, CincyTech and Cincinnati Center City Development, recognized the region needed reinvention and revitalization.5 These organizations, along with others, came together and

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4. Source: Cintrifuse, metrics from Ohio Third Frontier Entrepreneurial Signature Program 2015 letter of intent, reported to State of Ohio.
Cintrifuse works closely with the five ecosystem partners (start-ups, corporations, governments, educational institutions and investors) to provide local start-ups with talent, mentors, customer connections, funding connections and a working space.
developed a blueprint for building Cincinnati’s new tech-based economy focused on attracting capital and talent for start-ups. Collectively, they formed Cintrifuse, a not-for-profit entity and a Syndicate Fund.

Cintrifuse works closely with the five ecosystem partners (start-ups, corporations, governments, educational institutions and investors) to provide local start-ups with talent, mentors, customer connections, funding connections and a working space, too.

The Syndicate Fund is designed as a “fund of funds,” investing primarily in venture funds outside the region. The outside investment approach is intended to attract investors to Cincinnati, a city that would otherwise not be on the radar of VCs from either coast. During their regular visits to Cincinnati, the VC funds meet with local start-ups, providing opportunities for entrepreneurs to network and connect with progressive thinking about industry trends, technology categories, other experienced entrepreneurs and, of course, potential funding.

As a result of the collaboration and contribution from start-ups, corporations, governments, educational institutions and investors, the entire ecosystem benefited from increased innovation, talent and funding in the region.

While the process for building and sustaining a start-up ecosystem is unique to each region, commonalities exist. Our research found many similarities between the formation of Cincinnati’s start-up ecosystem and start-up ecosystems in other regions.

Lessons from Cincinnati: how do you build a start-up ecosystem?

As mentioned, there are five entities in every ecosystem that are instrumental for creating and sustaining a start-up ecosystem: start-ups, corporations, educational institutions, governments and investors (see Figure 1). There are also three roles within the ecosystem that must be filled: the ignitor to spur ecosystem creation, the connector to maximize the connections between the five entities and the lever to differentiate it from other ecosystems. We call this model the Power of 5.

Each entity has a specific function within the start-up ecosystem and provides a unique benefit:

1. **Start-ups**: spur job creation in the local community by transforming ideas into reality.
2. **Corporations**: provide entrepreneurs an outlet to solve industry and specific company problems and connections to new talent.
3. **Governments**: implement policies to attract start-ups via incentives, grants and funding.
4. **Educational institutions**: infuse young talent with current and relevant skill sets.

5. **Investors (e.g., accelerators, incubators and VCs)**: fund early-stage start-ups and connect portfolio companies to potential customers and mentors in their network.

Although the needs of these entities vary, each requires access to the other and, consequently, ecosystem stakeholders are increasingly interdependent. For instance, customers for start-ups can be corporations, educational institutions or governments. Corporations can access innovation through direct interactions with start-ups, or through introductions via other corporations, investors, educational institutions and the government.

These complex, crisscrossed relationships demand each of the five to think and behave as a maximalist – contributing its share while joining forces, so when success is achieved, each of the ecosystem partners wins (see Figure 2).

Innovative economic development is dependent on the collaboration of the five entities and requires explicit trust, shared knowledge and access to investment. This enables constituents to optimize the value they extract for themselves and increases their value to the entire ecosystem. To maximize this collaboration, the three key enablers, previously mentioned are necessary: an ignitor, a connector and a lever.
There are three roles within the ecosystem that must be filled: the ignitor to spur ecosystem creation, the connector to maximize the connections between the five entities and the lever to differentiate it from other ecosystems.

The ignitor of change
The ignitor can be any one of the five constituents with enough power to leverage community resources to initiate change in the regional economy.

In Cincinnati, corporations were the ignitor. While considered a mid-sized city, Cincinnati ranks among the top 10 cities in the US with Fortune 500 companies, represented by Procter & Gamble, Kroger, and Macy’s. While all five constituents helped develop the ecosystem blueprint, global corporations led the effort.

When the Cincinnati Business Committee (CBC) noticed the region’s performance on key economic measures trailed peer cities, representatives of the CBC aligned other constituents in the community to drive change.

While Cincinnati’s transformation was corporation led, all ecosystem players can be the ignitor:

Start-up led: for Boulder, in the US, entrepreneurial success has attracted other entrepreneurs fostering a regional innovation powerhouse. New start-ups are hungry for mentorship from existing entrepreneurs and successful entrepreneurs are happy to provide help and support with no specific expectations. Even though it has a population of 300,000, Boulder ranks among the top 20 most productive metro areas in the US in terms of GDP.

Government led: in London, the UK, Government commissioned the creation of Tech City with dedicated programs for entrepreneurs, such as the Digital Business Academy and the “future 50” accelerator, to support the digital sector in London and the UK. Since its launch, the region has witnessed an unprecedented wave of growth in its digital business.

Investor led: in 2011, in Las Vegas, US, investor Tony Hsieh personally committed US$350m to revitalize downtown Las Vegas into a thriving hub of high-tech creativity. Hsieh moved the Zappos headquarters to the area and bought 60 acres and 100 buildings in the surrounding area. The initiative intends to fund 50 small businesses and more than 100 tech start-ups that are willing to live in, or regularly visit, downtown Las Vegas. In addition to the 300 Zappos employees he brought to the area, his efforts have created 800 new jobs.

Institution led: in Silicon Valley, US, Stanford University helped faculty and students start businesses locally by creating an industrial park and leasing land to hi-tech companies. Entrepreneurs flocked to the area to access Stanford’s expertise and talent.

The connector
While the ignitor initiates change, the connector energizes the ecosystem constituents by facilitating efficient access and forging long-term relationships among them.

Cincinnati: while Cintrifuse focuses on helping start-ups with talent and funding connections, one of its key strengths is customer connections. Because it was born out of a corporate-driven initiative, the organization has a strong network and deep ties with Cincinnati's corporate community. These links allow Cintrifuse to pair start-ups with corporations, and corporations with start-ups. This relationship gives start-ups access to potential customers, and corporations access to innovation. A prime example of its role as the connector is Innovation Xchange. During the one-day event, innovation champions at local corporations were invited to participate in “speed dating” with start-ups to explore opportunities to work together. As a result of the 2015 Innovation Xchange, 13 letter of intents for collaboration were generated for start-up companies.

Chicago, US: 1871 is home to hundreds of tech start-ups, with a 50,000 square foot facility in the heart of Chicago. More than just a working space, entrepreneurs come to 1871 to benefit from a myriad of support initiatives offered, including educational classes, office hours by local professional firms and speaker events. It also serves as an umbrella organization for other entrepreneur-support providers. 1871 houses and gives entrepreneurs access to representatives from organizations such as Techstars, Chicago Ventures and LEAP Innovations to name a few. The hub brings resources together under one roof to facilitate interaction and open dialogue among all ecosystem constituents.

Cleveland, US: JumpStart is a public and private partnership founded in 2003 to address Northeast Ohio’s declining economy. In addition to providing seed capital for high-potential start-ups, it plays an important role in connecting entrepreneurial support organizations across the 21 counties of Northeast Ohio that are able to offer mentorship, talent and scaling support. From community loan funds and incubator spaces to accelerator programs and hubs for business assistance, the JumpStart entrepreneurial network and its associated partners have an array of resources available to assist young technology companies to start and grow.

Never has it been more important than today for regions to evaluate their economic development models.

Accelerating start-up ecosystems with the “Power of 5”

The lever
The lever accelerates development of the ecosystem by differentiating it from other ecosystems. This is key for quickly attracting capital and talent.

Cincinnati, US: known as one of the top branding, marketing and design hubs of the US, Cincinnati is home to consumer products and retail giants such as Procter Gamble, Kroger, Macy’s and 84.51° (formerly Dunhumby USA). In fact, Cincinnati entrepreneurs likely began their career at one of these well-known companies and apply the core competencies they learned to their start-up. This industry presence has attracted consumer-oriented start-ups to the area. Not only does the city’s talent pool support the growth of these start-ups, the corporations often become their first customers.

Washington DC: the capital of the United States is a “melting pot” of technology innovation. With the highest concentration of PhDs per capita in the US, the DC metropolitan area has a vibrant technology community born from its proximity to the US Government. For example, cybersecurity and lobbying start-ups have migrated from other parts of the country to DC to be in close proximity to the US Federal Government, a key partner to building a customer base and expanding tech-driven solutions in both the private and public sectors.13

Detroit, US: in 2014, Techstars, in conjunction with the City of Detroit, Ford Motor Company, Magna International and Verizon Telematics, launched Techstars Mobility to advance the field of mobility and transportation. Techstars selected Detroit due to it being a global epicenter for mobility and transportation innovation. The city leveraged its industry reputation to attract talent and capital.14 Detroit has another unique lever — its heritage. Homegrown investors and tech leaders with emotional ties to the city are also helping to fuel its renaissance. Quicken Loans founder

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Leveraging the Power of 5 to create and strengthen a start-up ecosystem helps regional economies innovate faster, attract outside investment and stay relevant as new technologies continue to disrupt the business landscape.

and Cleveland Cavaliers owner Dan Gilbert, a graduate of Michigan State University and Detroit native, moved Quicken Loans downtown and has committed to invest over a billion dollars acquiring and revitalizing buildings within Detroit. He also found Detroit Venture Partners, which invests in early-stage digital technology start-ups in the area. This intangible connection with the region has attracted wealthy investors to come back and invest in the area and it has enticed locals to stay and launch their businesses there.

Creating innovation economies with the Power of 5

While there is no one correct approach to the formation of a strong innovation ecosystem, the various paths undertaken magnify the importance of the concerted contributions of the five ecosystem partners. Yet in order to attain a critical mass of start-ups within a region and develop an impactful start-up ecosystem, each of the enablers (ignitor, connector and lever) needs to exist. They are critical in catalyzing the formation and growth of the ecosystem. Without any one of them, the ecosystem will never reach its full potential. The ignitor has the convening power to initiate the change. The connector unifies the ecosystem partners and facilitates the connections between the five ecosystem partners. The lever differentiates the ecosystem and attracts start-ups to the community.

Never has it been more important than today for regions to evaluate their economic development models. Rapid technological breakthroughs are changing the marketplace dynamics and enhancing the opportunities for smaller regions to grow. Companies such as Uber and Airbnb will arise in the future and continue to unbundle and disrupt traditional companies. Yesterday’s Fortune 500 leaders are gone and entrepreneurial start-ups are replacing them as today’s most influential industry leaders.

Leveraging the Power of 5 to create and strengthen a start-up ecosystem helps regional economies innovate faster, attract outside investment and stay relevant as new technologies continue to disrupt the business landscape.

“Frugal innovation” derives from “frugal engineering,” a term coined by Carlos Ghosn, CEO, Renault-Nissan.1 Its increasing influence and adoption is visible particularly in the manufacturing sector. However, by leading frugal innovation, organizations across all sectors, including consumer products and financial services, can transform not only products, but entire business models and markets. In a slow-growth global economy, frugal innovation, and the organizational revolution it requires, is predicted to be essential for continued success.

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Fragile innovation is, in essence, the art of doing more with less; to quote Benjamin Franklin, one of the Founding Fathers of the United States and renowned polymath, “Waste neither time nor money, but make the best use of both.” However, the drivers and scope are vastly more complex and potent than this narrow definition suggests.

In a world that is increasingly volatile, uncertain, complex and ambiguous, business as usual may mean no business tomorrow. New players are reinventing entire markets overnight. Consumers want more conversation with brands and have higher expectations of them delivering products they want. Natural resources, particularly water, need to be conserved and reused. The majority of people are now looking for meaningful, demonstrable sustainability commitments, both from the brands they buy and the organizations they want to work for. Leaders must embrace frugal innovation for these reasons and more.

Audacious objectives
A memorable, headline objective is essential for driving successful frugal innovation throughout an organization. Going even further, an audacious statement of ambition grabs the attention of people within and beyond the organization. For example, Unilever’s Sustainable Living Plan aims to reinvent the company’s entire product range and processes on the basis of sustainability, double sales to €80b (US$96b) and halve its environmental footprint by 2020. CEO Paul Polman argued that Unilever had no choice but to find frugal solutions in order to deliver more value, using fewer resources, to the four billion consumers it aims to serve by 2020. This clear statement of necessity has galvanized its people into finding solutions.

In 2007, UK-based retailer M&S launched “Plan A,” a set of 100 ambitious goals for waste reduction, energy efficiency, sustainable sourcing and more, across the company’s whole ecosystem – factories, stores, products and suppliers. The plan helped motivate M&S’s 86,000 employees worldwide to find innovative solutions to meet these ambitious goals. Today, M&S boasts an 80% employee engagement rate, one of the highest among retailers globally.

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Investors also like the plan because it enables cost-efficiencies. For instance, the plan has made M&S’s facilities 34% more energy efficient and 27% more water efficient since 2006.

To make frugal innovation really work, corporate leaders must put their reputations on the line by repeatedly making public statements of commitment to their goals. In 2008 to 2009, M&S’s profits fell by 40% during the depths of the recession - rather than backing off from Plan A, then CEO Sir Stuart Rose held firm in the organization’s commitment. Indeed, when Marc Bolland replaced Rose as M&S’s CEO in 2010, he pushed Plan A even further, raising targets across M&S’s global operations, clarifying how the 100 goals will benefit customers, employees and partners, and making the goals an integral part of its communications and marketing activities.

Align R&D with customer-focused strategy

One of the foundations of frugal innovation is focusing on customer needs. In September 2013, French multinational retailer Auchan set up a website, powered by crowdsourcing platform Quirky, inviting customers to submit innovative product ideas.6 Within two months, customers had submitted 800 ideas, from which four were short-listed and developed into finished products, based on votes by Auchan shoppers and Quirky’s community of designers and inventors. Since then, Auchan has introduced a greater range of consumer products designed by, or with, customers.

Consumers are not always aware of what they want, however, and in this instance, “ethnographic” consumer study is invaluable. Home accountancy software firm Intuit says employees from across the organization spend a total of 10,000 hours a year using an approach they call “follow me home,” in which they literally follow customers home and observe how they use the software.7 This enables Intuit to identify features in the software that are causing trouble for customers, and inversely, identify features that customers are looking for that are not currently built into the software. Intuit is frugal in its focus: all efforts are channeled into a defined strategy of making personal finance less tedious for customers.

Hypercollaborate

It is unrealistic for organizations to be able to reinvent themselves around frugal innovation overnight, and this

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To make frugal innovation really work, corporate leaders must put their reputations on the line by repeatedly making public statements of commitment to their goals.
Organizations can become more agile and learn to innovate faster and more cheaply, just as start-ups do, by engaging nimble entrepreneurs and innovative partners.

led Renault to create the low-cost Dacia brand for European consumers, which has grown rapidly beyond the company’s expectations – its “no-frills” vehicles now account for over 40% of global sales. Renault recently launched another low-cost model, the Kwid, intended as a first-time buy for drivers in India. The Kwid is a modern, simple, reliable vehicle that retails for under US$5,000. Karim Mikkiche, former Managing Director of Renault-Nissan’s Indian R&D center, said of the challenge, “When you put a limitation on resources, you remove the limitation on creativity.”

2. Sales and marketing

Sales teams may, understandably, struggle to be motivated to sell an inexpensive product, especially when they are used to marketing premium products and their bonuses are linked to the value of sales they make. In this instance, a restructured sales approach may be necessary: for example, forming separate sales teams dedicated to frugal products and the other to high-end products. Similarly, marketing departments may be concerned that promoting a frugal product could devalue the brand. However, in the case of Logan and Dacia, the products are never marketed as “cheap” – they, too, are marketed in an aspirational way; for example, the Dacia vehicles are marketed as “very attractive cars” that are “outrageously affordable.” Stephen Norman, former Senior Vice President Global Marketing, Groupe Renault, commented about Dacia: “We understand very clearly that ‘low cost is beautiful’.”

3. Board members

There can also be resistance from board members who are worried about the extra investment required to develop and launch frugal new products, and would instead prefer to stick to the current business model that is presently working and delivering profits. It is important, then, to keep on looking to the future and trying to anticipate where their market is vulnerable to disruption, either by new digital players rewriting the rules, or by an existing industry leader finding success in a previously untapped market.

Frugal innovation can be seen to be driving many changes in markets and within organizations, and will continue to do so as its influence spreads from economies, such as in India and China, across Western Europe and Japan, to the US, where frugal innovation is still in its infancy.

In conclusion, it is worth noting the single most important factor for implementing and realizing the benefits of frugal innovation: an inspiring, committed leader to galvanize the mindset of an entire organization, just as Paul Polman, CEO, Unilever is doing, and, of course, as Carlos Ghosn, CEO, Renault-Nissan identified when crystalizing the very concept of “frugal engineering” way back in 2006, which evolved to be known today as frugal innovation.

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Corporate incubators: nurturing innovation potential

Innovation does not come naturally to most companies, especially the kind of innovation that requires thinking outside the core business focus, as well as its culture and processes. However, as sectors are disrupted by new players and new approaches, this is exactly what many businesses need. To that end, corporate incubators are proving to be a successful strategy for organizations to develop new ideas, products and services – and ensuring long-term profitable growth.
Corporate incubators: nurturing innovation potential

Today’s fast-changing business environment aggravates the challenge for organizations to keep ahead and sustain their competitive advantage. Companies are confronted with a more complex situation than ever before – just think of escalating globalization processes and fast technological development, such as ever-increasing digitization. These give rise to new market players and market offerings, or shorter product life cycles and consumers who are better aware of their needs and market power. All of this demands excellent solutions to be delivered quickly.

In this environment, innovation becomes ever more crucial for companies to secure long-term competitive success. Most companies acknowledge the importance of innovation, yet often they struggle to put it into practice. Companies are confronted with an “innovation dilemma”: choosing between maintaining and developing the existing business, or venturing into new areas. While dealing with their daily challenges and operations, they miss out on the innovative opportunities in new fields.

How can companies really combine maintaining the existing business with developing an entirely new one? Management science suggests establishing an ambidextrous organization, which can operate with “two hands” and pursue exploitation and exploration at the same time. One approach to realizing an ambidextrous organization is to set up units mandated to engage in exploratory innovation activities as entities distinct and separate from the core organization. This idea has recently attracted attention from larger established companies as they open dedicated innovation units, or corporate incubators. Deutsche Telekom and hub:raum, Bayer and CoLaborator, Commerzbank and Main Incubator or Deutsche Lufthansa and Innovation Hub are just a few recent examples of incubation ventures.

The implementation of a corporate incubator helps companies to identify and engage with new fields and opportunities by operating in innovation spaces that are significantly different from the existing business, and in which possible solution approaches and necessary business capabilites and models are usually only little understood or mastered. A corporate incubator serves as a platform to support the development and success of internally generated ideas or enter into an exchange with external start-ups. It provides a protected space for ideas and topics that may otherwise be sacrificed to the core business’s demands.

Resolving the innovation dilemma

Though most companies are well aware of the importance of innovation and expend significant effort into becoming more innovative, they often fall short of attaining truly new innovations and business activities. One major reason for this is the innovation dilemma, especially if the innovation aimed for is not solely incremental but strives for leaps of a more fundamental kind. These usually entail a higher degree of unfamiliarity, greater deviance from existing knowledge and capabilities (often, companies lack the necessary skills altogether) and thus there is higher risk and less certainty of success. The dilemma arises because the core business and its operational logic often do not support innovative endeavors that stray far from the norm of what the company does. Indeed, they can frequently obstruct such activities.

So, while companies do the right thing and focus on managing and developing their core business, they forgo the opportunities and potential provided by innovation fields that are far from their core business activities. Yet, these are often the areas where most potential lies, from where the biggest threats for the existing business emerge and, likewise, from where the greatest opportunities for successful future development stem.

The obstructive effect of existing structures and procedures is most apparent in the case of more radical innovation, but non-radical innovation initiatives may also have a hard time gaining speed within existing structures. Nascent ideas for innovation of any kind need to be imagined as rather weak and not yet able to survive alone in the harsh reality of the outside world.

A corporate incubator is an organizational structure companies build outside their existing operational structures to facilitate innovation. It is a strategic investment a company commits to, intended to deliver innovation initiatives that have the possibility to emerge and gain traction in a protected environment, freed from the strategic and operational constraints of the core business. The intention is to provide room for the development of new technology applications, new product or service offerings and new business models which, if successful, will eventually benefit the core business as well – whether as another single-stands business or as a new feature integrated with, or added to, the existing business offerings.

Companies are confronted with an “innovation dilemma”: choosing between maintaining and developing the existing business, and venturing into new areas.
find incubators institutionalized as stand-alone, structurally — sometimes even spatially — separate units characterized by different procedural and cultural arrangements exhibiting a strong spirit of entrepreneurial attitude.

**Internal and open corporate incubators**

One significant distinctive aspect in the realm of corporate incubators is the degree of openness, hence the integration of, and collaboration with, external parties. Corporate incubators can be categorized as internal or open.

**Internal corporate incubators**, such as the Audi Production Lab, aim to support and facilitate internal idea generators, providing company staff with the space and resources to proceed with the ideas they have, with the ultimate goal of successfully developing new ventures. They rely only on internally generated ideas or concepts and do not, for the most part, engage in any partnerships or external sources of knowledge for the creation of business ideas. The primary goal is to increase the generation and utilization of internally developed ideas by taking them and their owners out of the usual business procedures and demands, and providing them with the necessary resources for focused and speedy development.

**Open corporate incubators**, such as hub:raum by Deutsche Telekom, aim to improve innovation performance just as internal corporate incubators do. However, they focus on external ideas and innovators — such as single inventors or start-ups. They screen the environment for promising ideas and high-potential start-up companies with the intention of forging cooperation. An open corporate incubator provides external innovators with space and resources, as well as access to the host organization’s capabilities and experience, in order to speed up business development. Cooperation can have different intensity and formal settings but the general aim is to identify and facilitate external innovators, to join forces, learn and eventually build a successful new business that can, at a later date, be jointly commercialized or integrated into the host organization.

Whether internal or open, a corporate incubator’s primary goal is to support both intrapreneurs or entrepreneurs in their efforts to create innovation and new ventures in a mutually beneficial arrangement.

**What are the benefits of a corporate incubator?**

The main advantage for companies establishing a corporate incubator is the facilitation of their innovation potential and performance. An incubator increases the chances for internal ideas to be developed into new businesses or to gain access to new external ideas and technologies. The independent and innovation-conducive setup stimulates a spirit of innovation and eventually facilitates a culture of innovation across the organization.

In return, the affiliated external innovators (as well as internal idea provider) or start-ups benefit from the different kinds of support an incubator provides:

- **Infrastructure**: e.g., office space, IT tools and administrative business support services
- **Mentorship and training**: e.g., individual coaching, courses on methodologies for venture building and presentation and negotiation skills

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A corporate incubator provides a protected space for ideas and topics that may otherwise be sacrificed to the core business’s demands.

Building and running a corporate incubator

As every incubator should be well fitted to the objectives, organizational arrangements and business environment of the initiating company, it is advisable to design an individual and specific corporate incubator concept aligned with the company’s purposes and possibilities.

EY has identified the critical pillars that need to be considered in order to successfully establish and operate

**Building and running a corporate incubator**

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**Advice:** e.g., business essentials, management, technological assistance, legal advice and staffing

**Network:** e.g., relationship building within the incubator, the host company and its extended network

**Resources:** e.g., funding (such as seed investment), skills and capabilities (including technology or production and marketing), experience and business or R&D aptitude of the host company.

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**Aligning the incubator’s strategy to the corporate strategy**

This is regarded as very important and enables the long-term success of the incubator. Involving the top management team in the corporate incubator ensures exactly this alignment and is critical for securing funding and resources, facilitating decision-making and generally providing legitimacy for the setup and operation of a somewhat extra-organizational facility.

For these reasons, a dedicated incubator strategy is needed with direct involvement from top management.

**Communication**

Beyond strategy, an incubator also needs a specific and dedicated communication concept, as its existence can sometimes be contested. The incubator’s importance, ambitions, objectives and its range of activities need to be communicated to the rest of the organization to gain crucial commitment and alignment.
Corporate incubators: nurturing innovation potential

Organizational setup
A corporate incubator needs a decision body, a core team and support functions. It also needs to define roles and responsibilities precisely. Finding the appropriate people for the incubator differs for each company. Their characteristics, however, can mostly be defined as entrepreneurial, visionary and reliable. Incentivizing people in an appropriate manner is essential for motivation and should not be underestimated.

Operating model
Processes need to be defined and governance established. Successful incubator implementation requires the definition of dedicated operational procedures while being appropriately aligned with the existing operational arrangements. It is essential that a dedicated end-to-end incubation process is established and that this process, and hence people, are supported by appropriate methods and tools. However, this process also needs to be well integrated with the core organization to avoid frictions that may arise from possible communication gaps between the incubator team and the corporate scouting or product and technology development units, or from the demands of elaborate and diverse process steps already practiced in the organization.

Funding
A dedicated budget for the appropriate and sustainable operation of an incubator is vital to guarantee long-term success. It is also very important to implement a performance measurement approach adjusted to the respective incubator approach. The existing accounting and reporting systems are also challenged by the implementation of a corporate incubator. Thus, appropriate support functions need to be ensured and the extent of shared functions utilization should be clarified before an incubator is established.

The goals of corporate incubators are not just financial but primarily driven by strategic motivations that focus on securing long-term profitable growth through innovation activities. They aim to boost innovation performance.
Conclusion
The setup and implementation of a corporate incubator is an extensive and complex challenge. A multitude of strategic, organizational and procedural questions arise and need to be aligned with the way the company normally operates. This is why EY takes a holistic approach when assisting companies to build corporate incubators that are fit for purpose.

Setting aside this complexity however, incubators can deliver a raft of benefits. If you are seeing new technologies, business models and players making their way into your industry, and you are aware that your competitors have already started seeking new business opportunities while your company lacks the innovation performance it could have, it may well be worth establishing a corporate incubator.  

EY has identified the critical pillars that need to be considered in order to establish and operate a corporate incubator successfully.

A new direction: is digital signage a potential goldmine?

Like many service market firms, telecoms companies are looking for new growth areas as revenue streams dry up. Although digital signage is itself a relatively small market, it represents a great chance for telecoms companies to gain experience in targeted advertising – helping them to understand how they can monetize their large customer bases to open more substantial opportunities.
Telecoms firms are seeing traditional revenues from phone calls and mobile data decline under increasing price pressure from a competitive market. As a result, they are looking for new sources of income. In particular, they are seeking new ways to generate revenue from their extensive customer bases.

In this article, we look at how the digital signage (DS) market could present major opportunities for telecoms firms. Although the market does not offer huge revenues in its own right, it does give telecoms operators the chance to learn a great deal about targeted advertising to their customer bases. And this will, in turn, open the door to much more substantial revenue streams.

A missed opportunity
In fact, a number of telecoms companies are already operating in the DS market. But typically they are providing digital signage as an add-on to existing packages; for instance, selling digital screens to small businesses on top of basic communications services. But currently, this is a small market for big firms, with low margins and little potential for growth. The leaders of national or international telecoms businesses are not interested in the DS market and, as a result, do not dedicate time or resources to it.

But EY’s industry experience suggests that many telecoms companies are missing out on the potential of digital signage. With only a small outlay of manpower and money, opening or expanding a digital signage offering could lead telecoms businesses into markets that give many times the revenue of the DS market itself.

The digital signage market
Digital signage is simply the use of multimedia screens to present advertising, promotion and information. These displays are usually found in shops or other sales locations, but can of course be situated away from points of sale (digital billboards, for instance).

Our experience has suggested that, among businesses already employing digital signage, there are typically three levels of development: basic, advanced and interactive. Figure 1 explores this in more detail.
Figure 1. Three stages of development in digital signage

<table>
<thead>
<tr>
<th>Definition</th>
<th>Basic digital signage</th>
<th>Advanced digital signage</th>
<th>Interactive digital signage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Presenting advertising, promotions and information on multimedia screens</td>
<td>Ultra high-definition monitors with players and wall mounts</td>
<td>Behavioral and interactive content</td>
</tr>
<tr>
<td>Hardware</td>
<td>LCD screens and integrated players</td>
<td>Multimedia (e.g., video catalogs and RSS feeds)</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>Basic information (e.g., directions and food menus)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A new direction: is digital signage a potential goldmine?

Figure 2. Use of digital signage by industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Use of digital signage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>An add-on to cash machines (ATMs)</td>
</tr>
<tr>
<td>Clothing and fashion</td>
<td>Virtual shop assistants and digital dressing rooms</td>
</tr>
<tr>
<td>Electronics</td>
<td>Offloading staff capacity</td>
</tr>
<tr>
<td>Food and groceries</td>
<td>Advertising and promotion, now improving customers’ in-store experiences</td>
</tr>
<tr>
<td>Furniture and furnishings</td>
<td>From digital catalogs to virtual in-store assistants</td>
</tr>
<tr>
<td>Hotels, restaurants and cafés</td>
<td>Big hotel brands have advanced DS; many smaller businesses are approaching the interactive stage</td>
</tr>
<tr>
<td>Transportation</td>
<td>An early adopter of DS, especially within large hubs</td>
</tr>
</tbody>
</table>

Telecoms businesses are in an ideal position to exploit their ability to send advertising to customers at any time and in any place.

As businesses progress from the basic to the interactive service, digital signage can provide more and more sophisticated functionality. On the basic level, you usually see simple LCD screens displaying information and other content (transmitted via a local or cellular network) for customers or other viewers. Companies that have progressed to advanced DS services typically use more complex screens and sometimes video walls that provide more carefully tailored information to viewers; content is frequently multimedia and can include live television, newsfeeds or other inputs. Once the interactive DS phase is reached, organizations can present dynamic and personalized content, often presented on high-definition screens, perhaps even in three dimensions.

Digital signage has something diverse to offer every sector and each industry can make slightly different use of its potential (see Figure 2).

The maturity of the DS market varies considerably by sector. Banking, fashion and transport have some of the most well-established DS markets. Meanwhile, the market is less mature in other sectors, including electronics, food and groceries, and furniture and furnishings. The hotels, restaurants and cafés sector (hotels in particular) provides an interesting example, as it is currently making the transition from a fairly basic use of digital signage, to something more advanced and interactive. The first hotels to adopt DS used it to help cut down on check-in and check-out queues and some other basic processes. Now, more advanced digital signage is being used in...
Figure 3. A basic digital signage system

Supermarket pays for installation of DS totems and screens

DS service (on-screen advertising)

Telecoms firm

DS equipment vendor
A new direction: is digital signage a potential goldmine?

Internationally, the digital signage market is currently valued at about US$12.5b, and is expected to be worth US$17b by 2017. Europe accounts for a substantial portion (currently around one-quarter) of this global market.

Why should telecoms firms be interested in digital signage?

As we’ve seen, a number of telecoms firms already have some kind of DS presence. However, DS is not a priority for the C-suite, because the market is not able to generate the kinds of revenues that big telecoms firms want to see: in essence, the potential revenues do not provide a sufficient return on investment (ROI) for larger businesses.

Although some telecoms operators do offer DS hardware as part of broader communications packages, such basic contracts do not offer a great deal of growth. However, a more sophisticated version of digital signage does involve telecoms operators directly. In these more advanced systems, the screens and hardware remain in place at a point of sale. And, on top of the basic physical signage, a telecoms firm then also provides targeted on-site “proximity marketing” (i.e., promotions and advertising) direct to their customers’ mobile phones. These services might work via a Bluetooth connection or another local triggering system.

This simple progression significantly enhances the digital signage provision. In return for providing access to its customer base, a telecoms business would expect to be paid a small fee for each communication sent to mobile phones.

Beyond the technological requirements, this might seem like an obvious service for a telecoms business to provide, so why is it so important? This is because it is the critical first step toward making more serious revenues from monetized customer bases. The key point is that clients are willing to pay a telecoms operator for targeted promotions to its customers. This is a real change to many telecoms’ business models, as clients are paying for advertising space and promotion rather than for goods and services directly.

Some telecoms companies are already providing services along these lines and most are aware of the possibility of proximity marketing. However, the majority choose not to invest in it (or do so only half-heartedly) because they feel that the margins are too small. This is certainly true: there is not a great deal of direct revenue potential even in this expanded digital signage offering. However, taking this step opens the door to much bigger revenues for telecoms operators – changing business models so that customer bases are fully monetized.
Figure 4. Digital signage with proximity marketing

Supermarket pays for installation of DS totems and screens
Supermarket pays for targeted promotion

Telecoms firm + DS equipment vendor

DS service (on-screen advertising)
Targeted on-site promotion to telecoms firm’s customers

Supermarket

Performance
A new direction: is digital signage a potential goldmine?

Proximity marketing builds the right skills and experiences

Although the returns are modest, telecoms firms that provide proximity marketing with digital signage will nevertheless generate some income. But, at the same time, the real ROI will be gaining a great deal of new experience that will lead the way to completely new revenue streams.

Being involved in proximity marketing and promotion, a telecoms firm will learn about:

- What messages clients want to distribute to their customers
- The value of these messages
- How telecoms customer bases will react to these messages

In addition, pursuing proximity marketing via digital signage will give telecoms tangible experiences. Companies will be able to build real-life case studies with a track record of objectives and results from their work in proximity marketing. This means that, if they want to approach new clients for a broader targeted marketing to their customer bases, they will have a valuable set of metrics and key performance indicators to support their case. Hence, they will be able to prove that proximity marketing – and any other type of value-added service – is actually yielding good results. The experiences will also help telecoms firms to develop an internal structure that is directly relevant to more sophisticated marketing to their customer bases. This structure might take care of administrative tasks, monitor messages and marketing feedback, or perhaps even measure ROI.

This real-world experience is not only useful for dealing with potential clients. In many telecoms firms, the key challenge for initiating targeted marketing to customer bases will be convincing leadership to invest in it. Starting out with digital signage helps in this cause because it involves very little financial outlay and yet allows relevant teams to build credentials based on real-life case studies. This makes it much easier to convince executives to invest in marketing and value-added services. If leadership can see that, for instance, a large supermarket will pay a telecoms operator to deliver messages via digital signage, they not only understand what messages can be delivered and the amount of money that comes from this service, but the example of the large supermarket makes it much easier for them to see the case for investing more broadly in marketing.

“Our future is in services, not products. Data monetization is the next frontier for us and we need to find a way to make profit out of it without endangering our current revenues. While new, internet-based communications operators (e.g., WhatsApp) have no ‘heavy baggage’ to deal with before moving to next-generation revenue models, we still have to cope with our legacies. This makes us very slow and cumbersome. Digital signage might be the key to make data monetization a viable reality for us.”

Chief technology officer, a leading European mobile operator
As well as building experience and expertise, offering DS means telecoms operators will also be able to assemble the necessary internal infrastructure for more advanced targeted marketing to their customers. Currently, although telecoms firms do have the infrastructure in place to gather data from clients and customers, they don’t have the analytics software required to process that data and establish useful conclusions. Proximity marketing will help firms to establish these systems. In addition, if telecoms operators want to make the transition to a business model that includes new services, such as targeted marketing, they also have to invest in a new infrastructure for their people. They might need to create new subdivisions and business units, or hire experts and project and account managers who can develop new services, pursue business development and handle new areas, such as adverts, campaign results and customer management. Again, experience in proximity marketing will help businesses to set up these structures.

In short, proximity marketing with digital signage is small scale, easy to achieve and cheaper than broader targeted, customer-based marketing. As far as management is concerned, it builds real-world support to the case for a broader marketing offering.

Unlocking real value through expansion
Faced with convincing evidence from the experience of proximity marketing with digital signage, it will not take an astute telecoms leader long to realize that targeting their customer base does not need to be limited to promotions triggered by walking past a digital sign. Telecoms businesses are in an ideal position to exploit their ability to send advertising to customers at any time and in any place. This expanded service can easily be sold to clients that are already paying for DS-based proximity marketing. This would mean that the client’s advertising would be being targeted appropriately all over a city, not just at a point of sale.

Internationally, the digital signage market is currently valued at about US$12.5b, and is expected to be worth US$17b by 2017.
In short, by taking DS seriously, and taking on board the lessons it has to offer, telecoms businesses would be able to expand potential revenue significantly.

Figure 5. Targeted advertising to a telecoms firm’s customer base
Furthermore, there’s no need to limit this advertising service to existing clients. After going through this process, the telecoms operator would be well placed to approach advertising agencies that represent a large number of businesses.

Once this step has been taken, telecoms firms’ business models are fundamentally altered. They are no longer simply making money through providing communication services, they are now able to generate substantial revenues by selling advertising space as well. The fact that this advertising can be so carefully targeted — since telecoms firms have so much data on, and knowledge of, their customers — it should be highly valuable space to advertisers.

In short, by taking DS seriously, and taking on board the lessons it has to offer, telecoms businesses would be able to expand potential revenue significantly: supplementing their traditional operations with business models that — until now — have been more familiar to commercial television stations or online companies.

How will telecoms customers be affected by targeted advertising?

Once a telecoms operator develops the capabilities to monetize its customer base through advertising, mobile phone users will start to see significant changes in the way that mobile phone contracts are sold to them.

It is likely that many operators will employ a multi-tier, opt-in and opt-out model. So, for instance, you might be able to buy exactly the same mobile phone contract in terms of handset, minutes, data and so on, for two different prices: one would include targeted advertising and the other would not.

Essentially, this strategy is broadly the same as models in operation for a number of online businesses, where customers pay a premium for an advertising-free service. Some online music-streaming companies use these models, for example.

The key difference for telecoms operators is that they can provide clients with highly accurate geographically targeted advertising; for instance, if a customer is walking up a high street, their phone might receive promotions from the shops they pass by.
Reinventing the **MVPD** business – it’s time!

The telecommunications and media and entertainment industries are undergoing a significant transformation driven by rapid advancements in technology, changing consumer habits, the rise of new competitors and different business models. In this article, we discuss the factors behind this, the types of changes that are happening and the implications for the multichannel video programming distributors (MVPD) if they are to win in this new environment.
Authors

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Sakshi Trikha
Associate Director, Media & Entertainment, EY Knowledge, India
There are radical changes happening in the MVPD sector, which plays a critical role in connecting the customer to content and communication. MVPDs are cable and satellite operators, wireline video and internet protocol television (TV) providers that distribute broadcast networks, basic cable and pay-TV channels.

What are the factors driving this change? There are five primary influences and we have detailed each of them here.

1. **Rapid technology advancements**
   Innovation in technology is at the heart of the MVPD industry transformation. Increasing bandwidth driven by technologies such as data over cable service interface specifications (DOCSIS) 3.1, fiber to the home (FTTH) and 5G are driving lower bandwidth costs and significant content innovation. There has been an explosion in the evolution of end-user smart devices (e.g., smartphones, tablets and wearables) and other connective devices, such as smart-home devices and connected cars, in order to leverage the speeds enabled by the innovation in communication technology. In addition, growth in computing, compression and cloud technologies are resulting in capabilities for delivering vast sets of content.

2. **Changing consumption patterns and needs**
   Smart devices and high-speed data have reshaped consumption patterns, with users developing a preference for accessing content in new ways.

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**Figure 1. Rapid technology adoption and advancements**

<table>
<thead>
<tr>
<th>Growing proliferation of smart devices</th>
<th>High-speed broadband and WiFi</th>
<th>Advancing cloud computing technologies</th>
<th>Compression technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>149 million</strong> smartphone shipments in the US in 2014 (+9% year on year)</td>
<td><strong>34 Mbps</strong> average internet speed in 3Q14 (+42% year on year)</td>
<td><strong>US$900m</strong> to be spent on cloud computing by US M&amp;E companies in 2020 vs. <strong>US$100m</strong> in 2013</td>
<td><strong>70%–80% lower</strong> bandwidth consumption with the new H.265 compression vs. MPEG-2</td>
</tr>
</tbody>
</table>

Source: IDC, Credit Suisse and Frost & Sullivan
for “anytime, anywhere” access and interactive media. Customers have embraced new ways of consuming, such as using time-shift technologies, pay-TV video on demand, streaming over the top (OTT) and binge viewing online.

3. Rise of new competitors driven by convergence

With growing convergence among media, telecom and technology companies, new competitors have emerged as strong challengers to the traditional MVPD players. Technology companies have entered the online TV segment. Incumbent telecom players are also offering TV services in a bid to expand their bundles. In addition, free video services and cable networks launching OTT services are driving more people to online videos.

4. Consolidation in the MVPD industry and integration with other sectors

MVPDs are actively engaging in ongoing consolidation to increase their subscriber base, reach new markets, strengthen their market power and gain synergies. A number of deals have been executed where telecom companies acquired cable operators, or cable operators merged with their cable peers, in order to gain scale in new as well as existing markets. MVPDs are also increasingly looking at integrating other capabilities into their portfolio. Some MVPDs have acquired interests in advertisement technologies to facilitate targeted ads and participate in the ad revenue stream.

![Figure 2. Use of OTT boxes in the US](source: Magna Global)
5. Regulatory changes

Policy developments and consumer acceptance of internet neutrality and privacy policies will continue to shape MVPD’s capabilities and business models in the coming years, and play a major part in shaping the industry. To drive net neutrality, in the US, the Federal Communications Commission (FCC) has reclassified wireline and wireless broadband as a common carriage service, regulating them under Title II of the Communications Act (a set of regulations that binds common carriers such as telephone companies to act in the public interest). FCC rules prohibit broadband providers from blocking or slowing down traffic and also ban them from offering paid priority services that could allow them to charge network users a fee to access internet “fast lanes.”

For online privacy, while the US has federal laws in place for certain sensitive data, such as health records and information on children under the age of 13, European internet privacy laws are stricter. In Europe, personal data can only be gathered for a legitimate purpose if the subject has granted “unambiguous consent.”

MVPDs have a unique position in the marketplace as the providers of “last-mile” connectivity, owning a trusted relationship with the customer and significant knowledge of consumer needs.

Reinventing business models for the new era

To stay relevant in this dynamic industry and build a competitive advantage, MVPDs have the option of either commoditizing their services and focusing on continually optimizing their cost structure; or
Figure 3. Service opportunities and asset utilization for MVPDs

Key success factors

- Upscale infrastructure to increase connection speeds
- Effective management and deployment of capital
- Rigorous cost management
- Selective integration capabilities
- Deep understanding of customer needs and preferences
- Flexible business and operating model
- Experience of customer management
- Strong partner network to deliver services
Reinventing the MVPD business — it’s time!

they can reinvent themselves with a reimagined set of product portfolio and service capabilities with new business, revenue and operating models.

**Expanding portfolio of products and services**

MVPDs have a unique position in the marketplace as the providers of “last-mile” connectivity, owning a trusted relationship with the customer and significant knowledge of consumer needs. We expect to see MVPDs begin to leverage this and redefine themselves as the service provider to the “connected life.”

We expect MVPDs to drive broadband and OTT services. At one end of the spectrum will be operators who focus on delivering broadband services. Their biggest differentiator will be their asset base and their ability to effectively manage capital investments. At the other end of the spectrum will be OTT providers, who will become aggregators of various services and also, potentially, create content themselves. Their differentiator will be their ability to understand consumer needs, build agility and offer an unparalleled customer experience. Falling between these two opposing ends of the spectrum will be an array of existing and new services that MVPDs will offer (see Figure 3).

Figure 4. Creating customized bundles from unbundled services

**How to create winning partnerships**

- Enter alliances with leading players for products and services that are beyond your core competency
- Work closely together with partners to define the offering, target audience and delivery methods to develop robust products and services
- Outline roles and responsibilities clearly
- Foster an environment that promotes a consultative reciprocal relationship that builds expertise and drives growth for both parties

**Unbundled services**

- Video: From a range of many suppliers, all of which operate independently of each other
- Voice
- Data

From a range of many suppliers, all of which operate independently of each other
Unbundling content and services to target customer needs

Successful MVPDs will treat each customer individually and offer targeted services. Some MVPDs will also leverage the unbundling trend to create niche services targeted at a specific set of audiences. MVPDs will configure services based on customer needs across broadband, video on demand, TV channel bundles, gaming and a variety of other services customized to suit individual needs (see Figure 4).

The winners will be the ones who can use big data and analytics insights to create relevant packages of service offerings for individuals, as well as provide unparalleled customer service.

To drive enterprise-wide growth, MVPDs will seek to expand their range of products and services; however, they cannot bring all these offerings to the customers on their own. MVPDs will need to select their product portfolio carefully and create winning partnerships with key players for aspects where they do not have a core competency. This includes identifying capabilities in areas such as gaming, security, home automation and the Internet of Things (IoT), that MVPDs could develop or acquire. Additionally, we expect to see MVPDs integrate vertically (inorganically or through partnerships) into content to drive growth in video services and control rising programming costs. MVPDs will also become superintegrators or aggregators of all content for customers,
Reinventing the MVPD business — it’s time!

seamlessly delivering services across entertainment, communication, home and life management.

Transforming revenue models: leveraging “freemium” and advertising models
MVPDs will need to experiment with new revenue models for different consumer segments (see Figure 5). For example, MVPDs could adopt the freemium model to introduce new services for free, or provide a set of ad-revenue-supported services complementing the traditional subscription-based services. Alternatively, MVPDs should consider offering both a subscription-based model and a freemium or ad-subsidized model based on customers’ willingness to share data and participate in advertisement campaigns. This would give the customer the flexibility to choose the model based on their willingness to share information. However, to leverage the advertisement revenue stream (with an addressable opportunity of more than US$80b), MVPDs need to build capabilities that microsegment customers and target them with the right solution or services.

The winners will be the ones who can use big data and analytics insights to create relevant packages of service offerings for individuals, as well as provide unparalleled customer service.

Figure 5. Driving revenues from freemium and advertising models

<table>
<thead>
<tr>
<th>Freemium model</th>
<th>Advertising model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage freemium to encourage consumers to try new services</td>
<td>Offer targeted advertising to reach relevant audiences and drive ad revenues</td>
</tr>
<tr>
<td>Drive only interested audiences to subscribe to services (this will help improve customer satisfaction)</td>
<td>Empower consumers to select ads they would like to watch and incentivize ad views</td>
</tr>
<tr>
<td>Upsell and cross-sell services using freemium to drive monetization</td>
<td>Pass on part of the ad revenues as benefits to the customer</td>
</tr>
</tbody>
</table>

► Leverage freemium to encourage consumers to try new services
► Drive only interested audiences to subscribe to services (this will help improve customer satisfaction)
► Upsell and cross-sell services using freemium to drive monetization

Driving MVPD revenues

Free trial or basic services
Paid-for premium services

Leverage freemium to encourage consumers to try new services
Drive only interested audiences to subscribe to services (this will help improve customer satisfaction)
Upsell and cross-sell services using freemium to drive monetization

► Offer targeted advertising to reach relevant audiences and drive ad revenues
► Empower consumers to select ads they would like to watch and incentivize ad views
► Pass on part of the ad revenues as benefits to the customer
Key imperatives for MVPDs to drive value
As MVPDs look at repositioning themselves, success will depend on their abilities both to reinvent themselves strategically and drive excellence in customer insight and experience.

Identify new revenue opportunities
Given the rapid changes in their operating environment, MVPDs actively need to seek additional revenue opportunities that will allow them to maintain growth. Some of these opportunities could come from new product and service launches as well as from new revenue agreements (see Figure 6). Incremental revenue streams can be built on MVPDs’ existing asset bases, without incurring large capital expenditure, through new product offerings, such as smart home, telehealth, personal information management and cybersecurity.

In addition, MVPDs could create customized service bundles that reach a larger audience and increase subscription revenues. MVPDs could also share in the income derived from targeting ads and restructuring the advertisement inventory available to them. This would drive yield management and deliver a better return on marketing investment for brands that target consumers. MVPDs are in a unique position to reshape linear advertisements by leveraging their deep understanding of the customer.

Create agile business models
MVPDs must pursue agile business models if they are to compete effectively amid blurring boundaries between content providers and distributors, shrinking product life cycles and transforming distribution models. MVPDs will need to grab the opportunities emerging from changing customer preferences through partnership with other companies, new
technology developments and increasing competition to establish themselves as industry leaders and niche experts (see Figure 7).

They will also need to offer more flexibility to customers to enable them to design and modify their own bundles, watch the advertisements they prefer and manage their spend across the various services they consume, based on their needs. Furthermore, with increasing demand for content, networks speeds and improved connectivity, MVPDs will continue investing in infrastructure upgrades. Given the increased capital expenditure associated with the upgrades and rising programming costs, MVPDs will need to drive cost optimization through business model innovation, such as network sharing or spin-offs of assets into real estate investment trusts. They will also need to improve the cost of operations through analytics-driven service-delivery model optimization.

Leverage analytics and big data
As the aggregator of services for consumers, MVPDs have access to unprecedented amounts of data about customer choices and behaviors because of the information captured by set-top boxes and cookies accessed through the broadband services provided. As an example, TV viewership on digital platforms and improvements in cross-platform TV measurement techniques are providing MVPDs the opportunity to increase their “audience IQ.” MVPDs should leverage this vast treasure trove to shape their businesses through more targeted

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**Figure 7. Building agile business models amid a changing environment**

*Diagram showing the relationship between customer preferences, partner relations, changing technology, and new competitors.*

**Figure 8. Key aspects of customer experience management**

*Diagram showing key aspects of customer experience management: faster resolution to subscriber issues, proactive responses to emerging issues, streamline provisioning and service activation, customer experience management, and responsiveness to significant “quality of experience” variables.*
offerings to a microsegmented consumer base, effective customer acquisition, retention and value management and profitability management.

MVPDs should also use analytics and big data to prioritize their investments and partnerships, thereby enhancing the overall customer experience across product performance, improved engagement and revenue optimization. While data privacy concerns continue to exist, MVPDs should follow trends in the online industry and adopt practices from leading online media companies that would enable them to implement this invaluable capability.

Transform the customer experience
As companies expand their service offerings, they need to evolve from providing customer care in silos to a more integrated customer experience management approach. MVPDs should institute capabilities, such as customer segmentation, that enable them to understand the brand promise for each separate segment. This can also help them establish the right capabilities for effective value exchange, facilitating the design of the customer experience at each touch point. In an ever-changing environment, where new and emerging offerings continually disrupt companies, effective customer experience management will be a key differentiator between the winners and losers.

Summary
Technology is disrupting all industries and changing the shapes of various sectors. MVPDs have a significant opportunity to emerge as the winners amid the whirlwind of change impacting the industry. These are tremendously exciting times and MVPDs that evolve with the new opportunities and challenges will be the game changers. The winners will be determined by their agility in responding to the changing industry dynamics.

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A cure for strategy?
Introducing a simple one-page strategy approach

The variety of different strategy models is often overwhelming for both practitioners and businesses alike. This article introduces a new, simpler one-page model that describes strategic transformation in a pragmatic eight-step iterative process.
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The concept of strategy is ancient—an inevitable practice used thousands of years ago by Sun Tzu in order to win wars and a precondition for the greatest empires throughout history. Further shaped by influential thinkers, such as Clausewitz, Drucker and many more, strategy nowadays holds great influence in various fields: especially in warfare and politics, but particularly in modern business.

In today’s global business environment, fierce competition and technological advancements increase supply while population growth stagnates in industrialized economies, reducing demand—a good strategy is inevitable to sustain and grow any business. Yet, it often fails.

Anamneses (i.e., initial evaluation)
Two out of three organizations claim to have an agreed-upon strategy; however, only 14% of all employees understand it. Less than 10% of all organizations are successful in executing strategy in such a way that their initial goals are met—proving that most strategic plans fail.\(^4\)

Why is that? The problem is that good strategy remains the exception, not the rule. Three major issues play a part here:

► Misinterpretation about what strategy really is and what it comprises
► Incorrect execution of strategy during implementation
► Absence of agility within the strategy

Against this background, countless different interpretations of strategy cloud the actual process of strategic transformation and lead to a complex puzzle for strategy first timers. The vast number of different strategic models that have evolved over time and date back to ancient history also does not really provide any clear guidance. Although they all share common aspects and fundamental truths, they are inconsistent with each other. Focus points, sequences and steps lay scattered. Indeed, corporate strategy is bigger and more complex than any single one of these models conveys. These approaches can only offer a starting point when deriving one’s own strategic approach, as no strategic model can replace the connection between reality and the business.

Diagnosis
How do you know which overall model to choose for any given situation? You might favor the one or the other, but most conventional models have not been adjusted over time. Certainly, newer frameworks rely on these traditional models and use their most important features as a foundation. Yet, the immense amount of different strategy models makes it hard to choose. Additionally, most remain fairly complex and exist solely in written form. Hardly any offer visual support to make them more accessible to strategy newcomers and easier to follow or alter to a specific situation. While most models recommend flexibility when adjusting the strategy, the models themselves are not to be adjusted.

When we tried to create a visual framework to bring one of our favored strategy concepts closer to new consultants and clients, those were exactly the hardships we experienced. We felt a cookbook-like breakdown, which could be understood, applied and adjusted easily, would be extremely beneficial. Therefore we had to rethink and, in the process, identified useful input from a different field that none of the models had considered so far ...

Among many fields, one of the most advanced solution-driven approaches is the medical differential diagnostic. It is the process that derives a diagnosis and best treatment on the basis of initial symptoms. If you think about it—medicine is the doctrine of health and illness: its practice ranges from curing to mitigation and rehabilitation. Further, it is an empirical science closely related to practice. A doctor’s individual experience will dictate the efficiency of their diagnosis. Yet, the model of the differential diagnosis serves as a universal framework and is applied individually across the globe; most follow its steps precisely. It was at this point that we discovered a range of parallels with the consultancy business and opportunities if key learnings were to be transferred.

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1. Sun Tzu was a military general, strategist and philosopher of ancient China. He was the author of the seminal military treatise *The Art of War*.
2. Carl von Clausewitz was a Prussian general and military theorist. He was the author of *Vom Kriege*, which examined war and military strategy and was published posthumously in 1832.
3. Peter Drucker was a management consultant who became one of the most influential thinkers and writers on management theory and practice.
But let's take a closer look at the differential diagnostic framework first. In principle, it is separated into two parts, namely the information acquisition that leads to a diagnosis, and the treatment. During the process of information acquisition, a wide range of possible diagnoses are eliminated. At the same time, symptoms are categorized to narrow the range of tests needed in order to verify or reject the leading hypothesis. In summary, three key steps are followed:

1. **Anamneses**
   An initial screening and interview called the anamneses helps to clarify the situation. This includes determining the symptoms, reviewing the patient's file and asking targeted questions about internal and external factors, such as the general state of health, pre-existing diseases, allergies, family disease history and more. At this early stage, the doctor will already start to categorize the issue as, for example, an infectious, genetic, allergic, toxic or other illness that then helps to guide selection of what will be the next steps. At this point, the doctor might evolve an initial idea about what the leading hypothesis will be through pattern recognition, i.e., experience.

2. **Clinical inspection**
   Having gained an initial idea of the situation, the doctor is likely to perform a clinical inspection. This follows a checklist-like analytical sequence of observing (seeing), palpation (feeling) and auscultation (hearing), and ultimately helps in two ways. It narrows down the range of possible diagnoses from which the doctor can form a leading hypothesis – a best-educated guess of the problem. Additionally, the “must-not-miss” hypotheses, namely mortal and highly dangerous diagnoses, must be considered if they cannot be excluded without any doubts. Other alternative hypotheses that are still thought to be highly likely may also be considered for further observation. The anamneses and clinical inspection enable a doctor to make an “educated guess” that has about 70% accuracy.

3. **Laboratory and apparatus tests**
   After defining the leading hypothesis, suitable laboratory and apparatus tests are selected to verify it, if necessary. This includes sample checks of body fluids and cells or body scans such as MRI, X-ray and ultrasound. In this way, the range of possibilities can be narrowed down by up to a further 25%, leading to a diagnosis that is 95% accurate, on average.

This diagnosis determines the appropriate treatment selection, in the second phase. A therapy and medication plan is put in place throughout which the patient is closely observed and feedback evaluated. If the patient's recovery is not as expected, this might be the result of incorrect treatment or diagnosis. If, even after treatment has been adjusted, there is no improvement, there follows a re-assessment of the leading hypothesis. The must-not-miss and active alternative hypotheses are reconsidered and a new diagnosis and respective treatment is chosen. This process is repeated until the patient is either healed or has received the optimal treatment given the diagnosis. Full recovery cannot be assured for all patterns of diseases.
When we made the connection between the medical differential diagnostic and the relevant conventional strategy models, we were able to develop a model to suit our needs.

Figure 1. The medical differential diagnosis approach
“It is important not to let rigid analysis become a substitute for fact-based innovative thinking.”

Markus Heinen
EY Europe, Middle East, India and Africa Strategy Leader

**Treatment**

When we finally made the connection between the medical differential diagnostic and the relevant conventional strategy models, we were able to develop a model to suit our needs. Our aim was to create a coherent visual interface that included all the important steps in the right sequence, enabling it to be:

- Easily understood by new consultants as well as clients
- User friendly
- Agile and flexible

Similar to the differential diagnostic, we created a universal solution framework that can be adjusted to suit individual needs. It is a flexible and action-focused problem-solving approach that can serve all different needs and circumstances—in business or everyday life. It is suitable for scaling up or down. For example, it can be downsized for private issues, such as coping with food intolerance or deciding which apartment to buy, or it can be expanded to fit global business decisions, such as which products to make or markets to enter.

It does not claim to be the ultimate answer or only solution; however, it is certainly one worthy of serious consideration.
The step-by-step strategy model is a structured, practical and modular approach to strategy. The circular shape is reminiscent of the solar cycle, indicating a continuous process with a consistent sequence of steps. Thus strategy is a process arising from, and renewing, itself. The interconnection between all eight steps allows for the application of sustainable feedback during later stages.

The inner level or circle of the model distinguishes the individual steps as belonging to three different phases: strategic planning, strategic thinking and strategic execution. Planning should merely provide a basis and support for strategic thinking, as well as mapping out how the strategy will be implemented. It is important not to let rigid analysis become a substitute for fact-based innovative thinking.

The essence
The high-level model provides a possible approach to strategic transformation. It solves the three problems: misinterpretation, wrong execution and lack of adjustability.

The visual framework makes it easy to comprehend. The model is pragmatic, structured and embraces all the steps considered necessary and seen in conventional models, as well as ideas from the medical differential diagnostic.

Further, the model offers the flexibility to adjust the strategy and even the framework itself. It has to be adopted in a way that fits the situation best because a rigid model can never replace the connection to an increasingly fast-changing reality. Or, as British statesman Winston Churchill once stated: “However beautiful the strategy, you should occasionally look at the results.”
The eight steps of the strategy model

1. **Goal and issue definition**
   Collect information that enables full understanding of the situation and helps identify the underlying challenge. Further, define a purpose and a common set of goals that are shared across the company and clearly communicated. An issue analysis helps in the formulation of a problem hypothesis, whereas goals are taken into consideration when defining the mission, vision and value statement.

   **Guiding questions:** “How do we define and measure success?” and “Which problem or challenge are we solving?”

2. **Opportunity analysis**
   Gather more primary and secondary data about the problem hypothesis and situation. The analysis will provide two options to overcome the issue: either choose to stay with the initial offering or innovate. Findings, experience and intuition will guide the selection of possible opportunities that have been identified.

   **Guiding questions:** “Do we build upon the core business or do we innovate?” and “Where do we wish to compete?”

3. **Strategic alternatives**
   Generate strategic alternatives from the option and opportunities previously selected. These are tested and compared beforehand, then ranked and prioritized to narrow down the selection. Ultimately, the more favorable strategic alternatives are formulated as hypotheses.

   **Guiding questions:** “Which alternative is most likely to succeed, given the nature of our business?” and “How are we going to allocate our resources in a way that optimizes our chances of success?”

4. **Alternative validation analysis**
   Conduct internal and external analyses to gather more information and evidence to support the decision whether to validate or reject the leading hypotheses. This helps in arriving at a sound diagnosis and recommended course of action. Yet, despite whatever decision is made, other must-not-miss and active hypotheses should be kept in mind for later reassessment.

   **Guiding questions:** “Which analysis tools are best suited for this individual issue and the chosen hypothesis?”

5. **Mapping and planning**
   Formulate the strategy in accordance with the diagnosis and break it down into tangible initiatives, subgoals, steps and coordinated actions. Prioritizing the initiatives and steps enables an action plan to be created, which then forms the basis for a revenue and resource plan. After accrediting the resources and budget needed, the strategy is ready to be executed.

   **Guiding questions:** “What do we have to do when and where to realize the strategy?” and “Which action steps are most urgent?”

6. **Execution and implementation**
   Execute the action plan as soon as possible to prevent the upfront analysis from becoming obsolete, thereby also preserving the momentum and critical advantage already accrued. Clear instructions and centralized command foster an unobstructed flow and ensures everyone is aligned. During the implementation, close observation and open communication through a common channel or in meetings enhance the feedback mechanism.

   **Guiding questions:** “How can we ensure that the strategic plan is being executed?”

7. **Assessment and competitor reaction**
   Consider the feedback gathered through the execution phase by holding monthly and annual strategy meetings. Screening competitor reactions and identifying market changes and shifts in demand can help to identify any necessary strategy changes. Thus, it is important to stay flexible.

   **Guiding questions:** “How do we have to adjust our strategy over time?” and “Which assumptions have to hold true in order for our strategy to remain valid?”

8. **Alignment or replacement**
   Decide on the strategy’s future course. If changes are considered necessary to ensure the strategy will solve the initial underlying issue and achieve the identified goals, fine-tuning it might be sufficient. If not, the strategy may have to be replaced with a new one, especially in cases where the underlying issue or goals have changed.

   **Guiding questions:** “How can we measure whether the strategy is leading to the desired success?”
Figure 2. The step-by-step strategy model

The model is pragmatic, structured and embraces all the steps considered necessary and seen in conventional models, as well as ideas from the medical differential diagnostic.
The Tao of digital strategy

Businesses across the world are experiencing the disruption of digital, particularly in the consumer products sector. Yet too often, digital considerations are merely a secondary factor in an overall business strategy, limited to investment in e-commerce. In a fast-evolving market, businesses that follow the principle, or “Tao,” of embedding digital approaches to connect with, serve and understand their customers more closely will be the ones who win.
“Tao” or “Dao” is a Chinese concept signifying way, path, route or, sometimes more loosely, doctrine or principle. In the digital world, Tao attempts to lay down the principles of strategy for businesses, enabling them to achieve their ultimate objectives. The Tao or the route to achieving these digital end goals is by investing in growth ideas, creating efficiencies, optimizing the business or through innovation where new products and services are launched.

**Strategy and strategic thinking**

A strategy is a high-level plan to achieve one or more goals under conditions of uncertainty. In business, strategy explains how an organization, when faced with competition or pressures, will achieve superior performance using various formats, such as corporate, growth or operational strategy. The new addition to this list is digital strategy, which helps define a plan to maximize business benefits by investing in digital initiatives and programs for the organization.

For every strategy, there must be a vision and a goal. Consider this example of a strategic vision or mission statement: company ABC’s “20/20” plan, i.e., revenues to grow at 20% per year and the profit margin to be 20% or higher. While framing a strategic view or a vision like this, it is important to identify upfront if it is a good or bad strategic choice. Bad strategy is not simply the absence of good strategy — it grows out of specific misconceptions and leadership dysfunctions. By contrast, good strategy is coherent action backed up by an argument; it is an effective mixture of thoughts with a basic underlying structure of diagnosis, policy and actions.

Strategic thinking, however, is about promoting unorthodox perspectives, challenging the obvious and fostering divergent thinking and creative solutions. “Lateral thinking”¹ is a similar term coined by Edward de Bono, the strategic thinker and leader. He defines it as a technique of problem solving by approaching problems indirectly at diverse angles, instead of concentrating on one approach, at length. Digital strategy could be thought of as a glue — binding together expected outcomes and practical implementation with a balance of strategic and lateral thinking.

For any strategy, there needs to be a vision. A digital vision would define the role of digital channels and the expected customer and business outcomes as part of a broader business strategy. The vision would act as the primary point of reference, influencing all of the digital activities, and would be broken down into measurable targets. Digital strategy provides, firstly, a full identification and overview of the challenges to achieving this vision, and, then, a diagnosis in terms of a selection of guiding principles that will overcome the obstacles previously identified. Finally, it provides a set of coordinated actions that are designed to put in place the guiding principles through a digital implementation that is aligned to the strategy.

**Building for a digital future**

A digital business drives revenue and results from new combinations of digital and business resources. Leading digital businesses successfully navigate through a series of complex choices and demanding decisions to find innovative initiatives. Digital businesses are changing the decisions that corporate leaders have to make and the role they play by asking new questions of them. If the disruption has fueled new competitors emerging from previously unrelated industries,

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the CEO of a business today would need to focus on strategic questions such as, “How can a digital strategy help strengthen my company’s position, enter new markets and grow the business?”

From EY’s point of view, enterprises are undergoing changes and evaluating how they need to build for a digital future. Changing forces are impacting customers and business models. Organizations need a digital strategy that embraces this new reality. A digital strategy needs to be well designed and integrated to achieve the business’s objectives and help unlock synergies across all channels.

The first challenge in articulating or defining a digital strategy is determining the problem. This requires an understanding of the business situation and challenges. This can be achieved using problem definitions and breaking down the key question into an “issue tree,” establishing hypotheses for each issue, and defining analyses to prove or disprove them. Figure 1 provides an example of EY’s approach when constructing a digital strategy framework.

In the consumer products sector, digital has shifted control to the consumer or shopper and is a key factor driving the evolution of the value chain.
Figure 1. The key elements of a digital strategy

<table>
<thead>
<tr>
<th>Digital proposition development</th>
<th>Market strategy</th>
<th>Customer strategy</th>
<th>Finance</th>
<th>Operations strategy</th>
<th>Product and pricing strategy</th>
<th>Digital business model economics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategy and business model</strong></td>
<td><strong>Mapping of the multichannel customer journey</strong></td>
<td><strong>Digital</strong></td>
<td><strong>Experience</strong></td>
<td><strong>Mind and voice of the customer</strong></td>
<td></td>
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<tr>
<td><strong>Digital marketing</strong></td>
<td><strong>Digital sales</strong></td>
<td><strong>Digital service</strong></td>
<td><strong>Information and insight</strong></td>
<td><strong>Employees and operating model</strong></td>
<td><strong>Partners and ecosystem</strong></td>
<td><strong>Operating processes</strong></td>
</tr>
<tr>
<td>Insight and remation</td>
<td>Paid, owned and earned media</td>
<td>B2B² sales 2.0</td>
<td>eCommerce</td>
<td>Service design</td>
<td>Self-service</td>
<td>Big data</td>
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<tr>
<td>Marketing automation</td>
<td>Social media and USG¹</td>
<td>B2B communities</td>
<td>B2C² communities</td>
<td>Apps and devices</td>
<td>Social media care</td>
<td>Privacy</td>
</tr>
<tr>
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<td>Peer-to-peer communities</td>
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<td>Social commerce</td>
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<td><strong>Employees and operating model</strong></td>
<td><strong>Partners and ecosystem</strong></td>
<td><strong>Operating processes</strong></td>
<td><strong>Technology and tools</strong></td>
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<td><strong>Capabilities</strong></td>
<td><strong>Innovation</strong></td>
<td><strong>Suppliers</strong></td>
<td><strong>Value-added resellers</strong></td>
<td><strong>Account origination</strong></td>
<td><strong>Identification and verification</strong></td>
<td><strong>Project approach</strong></td>
</tr>
<tr>
<td>Organization and incentives</td>
<td><strong>Distributors</strong></td>
<td><strong>Logistics</strong></td>
<td></td>
<td><strong>“Quote to cash”</strong></td>
<td></td>
<td><strong>Rogue IT</strong></td>
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<td><strong>Collaboration and communities</strong></td>
<td><strong>Gamification</strong></td>
<td><strong>Communities and collaboration</strong></td>
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Notes:
1. User-generated content (USG)
2. Business to business (B2B)
3. Business to consumer (B2C)
4. Consumerization of IT (CoIT) and bring your own device (BYOD)
5. Software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS)
Digital in practice – India

Let us, for a moment, look at the e-commerce consumer products sector in India. The e-commerce ecosystem in India has various players, each with their own unique dynamics. For example, there are “pure play” e-commerce or marketplace companies, traditional companies that offer e-commerce as a channel and payment solution providers (see Figure 2). A digital strategy for a brand getting into e-commerce would encompass a broad array of elements – driven by the overall corporate and operational strategy.

Typically, organizations take different approaches to their strategy based on their alignment and operational capabilities. In the consumer products sector, digital has shifted control to the consumer or shopper and is a key factor driving the evolution of the value chain. Brands can build early success with a clear digital strategy and vision.

The e-commerce sector has been evolving at a rapid pace and all players in the ecosystem have been changing strategies regularly. Given this dynamic nature, brands have been facing problems planning for the long term with respect to both demand as well as investments.

What are we hearing from these brands and players is that their top three issues when competing in India’s e-commerce space are that:

► Growth is challenging.
► Costs are hard to control.
► Consumer behavior is changing.

Fundamental issues to consider include:

► Articulating a clear corporate strategy
► Determining the role of channels across the portfolio
► Designing new marketing and advertising strategies
► Building multichannel or omnichannel experiences across store operations
► Ensuring agility within supply chain operations
► Disrupting retailer and supplier relationships

Within the marketplace, the players that are most dominant are those who have cornered a large part of the online traffic and market share, thus giving themselves increased bargaining power when negotiating trade terms. The high cost of marketing makes it unviable for brands in the online space to compete across marketplaces to drive traffic. The majority of e-commerce companies are “price players” due to the stiff competition they face and the race to acquire the maximum number of customers. The result is very low margins or none at all for some brands, and a greater portion of their marketing budget is spent on traditional models to attract or retain customers.

Creating a business model that ensures constant connectivity with the consumer or shopper will not only lead to financial growth, but loyalty and advocacy.

Figure 2. India’s e-commerce ecosystem has various players
Digital is fundamental
Across the world, digital opportunities in the e-commerce space have been fueled by mobiles and mobile platforms, where vendors can leverage the exponential growth in smartphones and tablets to their benefit. They can use these tools as an effective marketing platform for expanding their reach to new customers and increasing awareness about their products and promotional offers.

Adoption of social media is increasing. This is now considered as a one-stop platform for enterprises to target consumers across all age groups. Vendors can use data analytics tools and analyze consumer data on social networking websites to understand consumer taste and preference and generate value-added insights to drive e-commerce sales.

A growing digital consumer base in metro cities and non-metros has resulted in players increasing their focus on the potential consumer base. The non-metro cities hold considerable growth potential, given the increase in disposable income in the country. Vendors investing in understanding their target customer base and market demand are expected to be more effective in targeting untapped markets in these cities.

For any player in the consumer sector, growth would mean investing in digital across the value chain as represented in Figure 3. A very important consideration when choosing a digital strategy for a consumer brand is to first plan for investment in its growth strategy. Targeting the mass segment, so that growth is captured as markets develop, is, arguably, the best way to start.

Connected consumers and shoppers lead to growth. Creating a business model that ensures constant connectivity with the consumer or shopper will not only lead to financial growth, but loyalty and advocacy. Creating intimacy with your customer is one of the cornerstones of digital strategy for omnichannel because, ultimately, it is all about them. Brands should connect with consumers and shoppers whenever, wherever and however they want, and this will help consumers move from being aware of the brand to being their brand advocate.

A digital strategy will help a company get “up close and personal” with its consumers – merely investing in e-commerce will not help drive growth. There are complementary digital investments that need to be made in areas such as digital marketing, social media and location-based services that will help build stronger brand and customer service. Opening up a two-way...
Figure 3. Key initiatives and investments in digitalization

<table>
<thead>
<tr>
<th>New product development</th>
<th>Sourcing and procurement</th>
<th>Manufacturing</th>
<th>Marketing</th>
<th>Sales and distribution</th>
<th>Consumer or shopper relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digitally enabled products evolving into services</td>
<td>Supplier, manufacturer and retailer convergence</td>
<td>New methods of manufacturing, e.g., 3D printing for low-volume and high-value applications, allowing rapid prototyping</td>
<td>Location-based promotions</td>
<td>Virtual stores</td>
<td>Digital loyalty programs</td>
</tr>
<tr>
<td>In-house digital labs and consumer insights via digital</td>
<td>Cloud platforms to collaborate with trading partners</td>
<td></td>
<td>Retail experiential marketing</td>
<td>Cashless solutions for distributors</td>
<td>Mobile apps and digital platforms</td>
</tr>
<tr>
<td>Crowdsourcing</td>
<td>Point of sale information for demand forecasting</td>
<td></td>
<td>Personalized and hyper-targeted advertising</td>
<td>Product-driven disintermediation</td>
<td>Sentiment analysis</td>
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<tr>
<td></td>
<td>Social media to track end-user demand</td>
<td></td>
<td>Second-screen phenomenon</td>
<td>Social commerce</td>
<td>E-coupons</td>
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<td></td>
<td>Omnichannel</td>
<td>Mobile wallets</td>
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<thead>
<tr>
<th>Human capital</th>
<th>Logistics</th>
<th>Partnerships and collaborations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital-savvy workforce</td>
<td>Anticipatory shipping</td>
<td>Open source innovation: collaborations with, and acquisitions of, digital start-ups and firms; co-creation platforms</td>
</tr>
<tr>
<td>Analytics capabilities or functions, e.g., big data analytics and digital and social media teams</td>
<td>Digital product tracking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commercial fleet telematics</td>
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</tbody>
</table>

Digital impact: from “business to consumer” to “consumer to business”

Significance of digital:

- High significance
- High to moderate significance
- Moderate significance
- Moderate to low significance
- Low significance
A digital strategy should be integrated with a company’s customer strategy so that it can acquire consumers, address markets, define tactical activities and achieve its goals and, in so doing, better engage across its customers’ life cycles.

Building agility into the business is important in order to allow it to scale up or down. Fueled by the right digital investments, it also enables the business to cause disruption within the market. For example, one of the disruptive trends employed by nearly every business with the ambition to grow a larger market share is the exploitation of opportunities created by the growth of mobility and internet penetration. The almost universal adoption of mobile technologies by consumers has created a non-linear path for businesses to grow.

To target this segment of mobile-empowered consumers, brands have been aggressively investing in digital marketing initiatives. Traditional marketing strategies such as “above the line” (ATL), “through the line” (TTL) and “below the line” (BTL) have been complemented with other forms of marketing that blur the offline and online business worlds. Social marketing, mobile marketing and online advertising strategies are the current priorities for new businesses.

Successful brands have been able to provide a strong and consistent digital presence by investing in channels, social listening and customer service and thereby driving consumers to experience the brand – NOT the brand within the channel.
This then creates a seamless experience for the consumer by continuously engaging and communicating with them.

**The future is customer centric**

Ultimately, for any consumer business, what this all means is that customers have come to expect a new level of experience across channels — which they will choose at a time and place of their liking. Businesses that do not meet consumers’ expectations will lose them. The adoption of new technologies will enable further productivity increases and create stiffer pricing wars. Tracking and monetizing customer insights will be the key differentiator in this game.

Capability requirements will continue to change the landscape and businesses will need to differentiate with better experiences and digital investments.

To conclude, the Tao of digital strategy, today, is for a business to understand its corporate objectives and develop short-term and long-term approaches that help it achieve its vision through investments in digital capabilities. A digital strategy should be integrated with a company’s customer strategy so that it can acquire consumers, address markets, define tactical activities and achieve its goals and, in so doing, better engage across its customers’ life cycles.
Tapping the potential: Middle East and North Africa embrace the future of cleantech

With an abundance of natural resources and space for large-scale development, the Middle East and North Africa (MENA) region is primed to become one of the fastest cleantech growth markets. There is a mounting demand from financers who want to invest in this region and from the hundreds of millions who live there.
Some MENA countries have made great strides in cleantech, with large-scale renewable energy projects under way and plans for further development in the pipeline. Despite the momentum, the region has yet to take full advantage of the opportunities. Political instability, financing challenges and a continued reliance on fossil fuels continue to thwart progress.

A lack of government policy continues to be a leading barrier to advancement. Until the countries craft consistent regulations, the MENA region will continue to lag in cleantech development, leaving the area dependent upon fossil fuels.

Needs vary across the region

Comprising 18 countries, the MENA region is economically diverse. The price of oil and the legacy of economic policies, reforms and structures influence their fortunes. As of 2013, 321 million called this area home. Between 2010 and 2013, the population grew at an average of 1.9% per year.

Cleantech growth is essential for serving the energy needs of this growing population, whether it is derived from renewable energy, such as solar and wind power, or nuclear energy. It is important to differentiate between the territories in order to better understand the reasons fueling the growing demand. Much depends upon whether the area is a net energy exporter or importer.

► Gulf Corporation Council (GCC):
  Saudi Arabia, United Arab Emirates and other countries in this area are
energy exporters, but a significant part of their production is consumed locally. It is anticipated that, by 2030, some of these countries will be consuming the majority of their own production, which would, otherwise, have been more profitable on the open market.

**Levant:** Jordan and the other countries in this area are net energy importers. The cost of their energy bills are much higher, making renewable energy and other forms of cleantech a basic necessity for both the Government and individuals.

**North Africa:** this area is a mix of net energy importers and exporters, thus, the need for cleantech varies even more. With higher costs at stake, net energy importing countries tend to pursue energy initiatives more aggressively. Earlier this year, Morocco and Egypt ranked 27th and 39th respectively in EY’s *Renewable Energy Country Attractiveness Index.* The list ranks 40 countries based on the attractiveness of their renewable energy investment and deployment opportunities. Only three MENA countries made the list, with Saudi Arabia dropping from 35th to 37th in rank.

**What is hindering progress?**

While political crises continue to hinder renewable energy development in some countries, such as Iraq, Libya and Syria, the main barrier is the lack of consistent policies around cleantech. Given the demand, financers are anxious to invest in the region, but they are hesitant to do so because of the lack of guarantees and support from area governments. EY’s 2014 MENA cleantech survey, which gauges the sentiment of senior industry executives regarding renewable energy implementation in the region, again ranked insufficient policy frameworks and regulations as the largest barrier to cleantech development.

Industry groups, such as the Middle East Solar Industry Association, and the Clean Energy Business Council (CEBC) have noted that, while there is great optimism about the potential for renewable technologies, few governments have committed to long-term policy support. Another issue is local confidence. Some of the countries, including Saudi Arabia, tap local manufacturers for energy, rather than importing sources from elsewhere, irrespective of the cost. Their goal is to create new jobs and expand the local industry.

In the GCC, governments are sensitive about engaging private industry in the energy sector. They believe natural resources are part of the sovereignty’s assets, and the government should retain control.

Officials in countries such as Egypt and Jordan are concerned about the private sector’s ability to provide a sustainable source of power.

**At what cost?**

Cleantech is only a portion of the total power generated in the MENA region, and it encompasses a range of sources, including renewable energy and energy efficiency. About 98% of the region’s energy mix still comes from fossil fuels, according to Alice Cowman, CEO of CEBC. Failing to tap into the potential of cleantech is costly. Most of the countries in the Arab world heavily subsidize energy. The International Energy Agency estimates that subsidies in the MENA region were about US$178b in 2013, which is 34% of global energy subsidies. Facing the prospect that those numbers will only increase, cleantech is finding greater acceptance. The desire to reduce the consumption of, and government subsidies for, fossil fuels is the second most important driver for cleantech development in the GCC and Levant.

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Some countries have managed to reduce their subsidies, including Dubai, where government spending on energy is minimal. Saudi Arabia’s subsidies have remained unchanged for the past 10 to 15 years. But in Algeria, Egypt and Libya, the governments subsidize between 80% and 90%.

Jordan managed to offset subsidies by welcoming private sector investment in renewable energy. It has implemented the first phase, working with 12 developers on projects, including the Shams Ma’an solar project and the Tafila wind farm. Other countries, however, such as the United Arab Emirates (UAE) and Qatar, have been conservative when involving the private sector.

Governments started feeling the pressure from paying so heavily in 2008 and 2009 during the global financial crisis, but the Arab Spring and the tense political atmosphere prompted governments to delay their efforts to reduce spending. Most of these countries still subsidize energy on an increasing basis.

While the subsidies continue to mount, increasing demand still has to be met. The solution, however, is not to increase fossil fuel production, but to invest more in cleantech – renewable energy, in particular, because of the availability of natural resources in the region. Compared with other technologies, renewables are a proven and affordable option.

**Attracting private sector participation**

A strong relationship between the private and public sectors is important across the region, but the preferred mechanism for drawing private investment varies by area.

In the GCC, the primary choices for attracting private money are independent power producers (IPPs) and public-private partnerships (PPPs). Dubai recently announced IPP financing of its new 100MW solar project.

A majority – 47% – of respondents in the EY survey said IPPs, allocated in a government-sponsored bidding mechanism, are the best way to attract private sector participation. While they are more complex, IPPs enable investors to hedge against risk. Jordan, which is one of the more active countries for cleantech development, has led the way with its IPP renewables program, according to the CEBC. PPPs ranked second, preferred by 20% of participants.

While only 14% of respondents believe feed-in tariffs (FITs) are the best way to attract cleantech investment, it is still the leading choice for the Levant and North Africa. Algeria introduced a 20-year guaranteed premium for wind projects, shortly after its solar FIT. Jordan’s new law for FITs and new tender frameworks are leading cleantech innovation in the region.

**Developments are taking shape**

Respondents were highly optimistic about cleantech investment, believing that it will either “increase” or “increase strongly” over the next five years. Several countries have set sizable renewable energy targets.

Saudi Arabia suffered a minor setback because investment and regulatory

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Over the next five years, the top three technologies in terms of market potential are water, solar and energy-efficient and green buildings.
**Top technologies by rank across the GCC, the Levant and North Africa**

<table>
<thead>
<tr>
<th>Rank 1</th>
<th>Rank 2</th>
<th>Rank 3</th>
</tr>
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<tbody>
<tr>
<td>Water technologies</td>
<td>Solar</td>
<td>Energy efficiency and green buildings</td>
</tr>
<tr>
<td><img src="Image" alt="Water icon" /></td>
<td><img src="Image" alt="Solar icon" /></td>
<td><img src="Image" alt="Energy efficiency icon" /></td>
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<tr>
<th>Rank 4</th>
<th>Rank 5</th>
<th>Rank 6</th>
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<tr>
<td>Waste management</td>
<td>Wind technologies</td>
<td>Carbon capture and storage</td>
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<tr>
<td><img src="Image" alt="Waste icon" /></td>
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The most valuable lesson from the past years’ learning and experience is that it will take a robust regulatory framework to create confidence among investors and contractors.

Most important barriers and challenges to the development of cleantech in 2014

- GCC
  - Environmental and technology issues (such as dust and humidity)
  - Grid infrastructure
  - Insufficient government policy frameworks and regulations

- Levant
  - Insufficient private financing and limited financing experience among banks for RE projects
  - Lack of global carbon reduction mechanism

- North Africa
  - Lack of local capacity (workforce training, domestic contractors, etc.)
  - Price competitiveness compared with traditional energy sources
issues delayed its solar megaproject. During the World Future Energy Summit in January 2015 in Abu Dhabi, officials announced plans to postpone their renewable energy program from 2030 until 2040.

A recent spate of developments, elsewhere, that are under way or in the planning phases is bolstering enthusiasm. Among them:

► Egypt announced a 4.5GW group project, drawing international, national and regional companies to form a consortium to bid for the capacity.
► UAE announced 100MW in solar power projects in Dubai and Abu Dhabi, and developments continue at Masdar City.
► Morocco shortlisted bidders for two concentrated solar power projects with a total capacity of 300MW.

As renewable energy projects continue to progress, the type of technology drawing investment is shifting. Confidence in solar had been growing, based on the announcements of new solar projects in the region. Prices and interest rates were low, and confidence in solar power remained high for three years, according to the cleantech survey.

Water, however, has eclipsed solar as the top technology for growth. There is always a demand for water projects, but delays in solar projects have fueled water’s popularity.

Despite falling to the second spot, solar continues to enjoy strong confidence amid continuing low prices, falling borrowing costs and policy changes.

Over the next five years, the top three technologies in terms of market potential are water, solar and energy-efficient and green buildings.

**Next steps**
The idea of renewable energy is firmly on the agenda for countries across the MENA region. And the private sector is ready for an opportunity to work closely with governments, if it is a win-win prospect.

But there are other key factors that need to be addressed if the cleantech market is going to accelerate. In some areas, there is a need for more technology; in others, there is a greater need for additional funding options.

Opportunities to provide access to affordable and secure low-carbon energy are continuing to increase. Industry executives expect a rapid growth in the cleantech contribution. But the most valuable lesson from the past years’ learning and experience is that it will take a robust regulatory framework to create confidence among investors and contractors.
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