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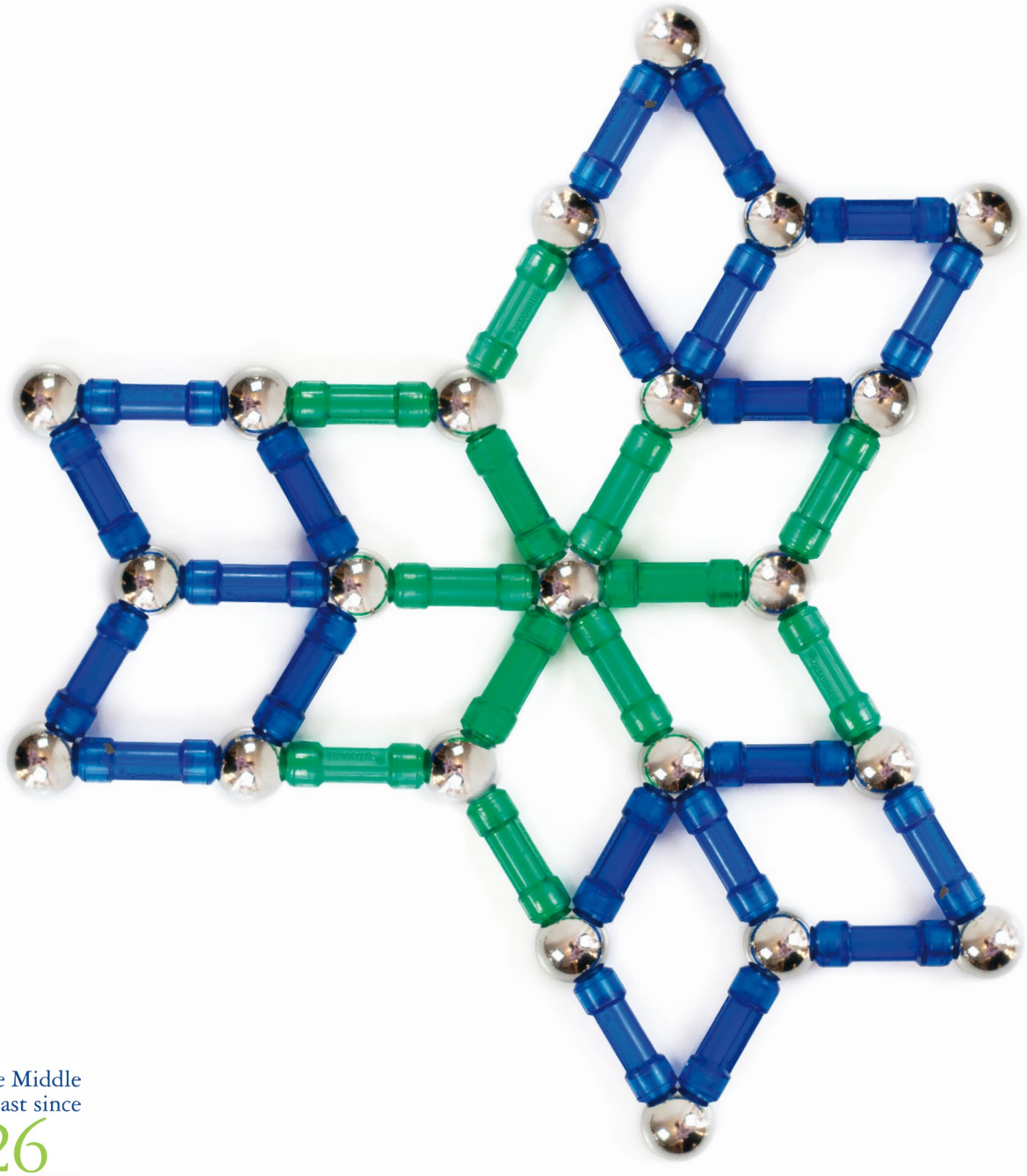
Technology, Media & Telecommunications Predictions 2014

Middle East



In the Middle East since 1926

Contents

Foreword

Welcome to the 2014 edition of Deloitte's predictions for the technology, media and telecommunications (TMT) sectors.

TMT Predictions' objective is to identify critical inflection points we believe should inform industry strategic thinking, and to explain how we think these will manifest over the next 12-18 months. Our perspectives are built around hundreds of discussions with industry executives, analysts and commentators, along with tens of thousands of consumer interviews. Our predictions are also tested with clients, industry analysts and conference attendees in the months that lead to the predictions.

While the Global Predictions are currently in their 13th edition, this year for the second time, Deloitte has launched a version of the predictions with specific relevance to the Middle East region.

We would also like to express, once again, our gratitude to the Dubai Media City (DMC) for its support in the launch of the TMT Predictions in the Middle East for the second year. The Predictions are a part of the DMC's untiring commitment to support research and study into the future of the sector. As in each year that we have published a set of predictions, the core drivers of disruption in the sector remain the same: processor speed, connectivity and storage.

For the past decade, these three drivers have enabled massive advances in the utility, ubiquity and spend on connected devices. In 2014, we expect five connected devices which constitute the converged living room – TVs, PCs, video game consoles, smartphones (including phablets) and tablets – to generate $750 billion in revenue.

Despite launching a mere four years ago, tablets are already mainstream and approaching maturity, in that the category now describes a wide, and widening, range of capabilities, sizes, user bases and uses. The largest component in the converged living room group, smartphones ($375 billion revenue in 2014), are nearing saturation among most age groups, although there is still a prime opportunity among people older than 55 – a demographic likely to experience one of the steepest rises in penetration rate this year.

Smartphone and tablet vendors are emphasizing ruggedness as a key differentiator, which will make the cracked screen even less common in 2014. This focus also has the benefit of making consumer devices increasingly appropriate for use in non-office environments, and in 2014 we expect a rugged field-force device will cost as little as $250.

New device form factors are expected to be launched in 2014, with wearable computers being one of the most talked-about categories. We predict sales of smart glasses, watches and wristbands will reach 10 million units in total this year, and will generate about $3 billion in revenue; significant, but modest when compared to revenues from devices in the converged living room.

By contrast, revenue in the low billions is very significant for the recorded music industry, which has seen falling revenues over most of the last two decades. In 2014, we foresee one component of recorded music, performance rights fees, which are paid for use of music in public, to reach $1 billion for the first time ever. This contrasts with the $25 billion broadcast rights for premium sports (a 14 percent increase on 2013 globally and an even greater 15-20 percent increase in the Middle East), or the $100 billion forecast for text messaging services.

As is common in the TMT market, volume does not always equal value. While text messages will only represent about a third of all messages sent from mobile phones, they will account for close to 100 percent of revenues, with mobile instant messaging (MIM) services generating about $2 billion.

A decade ago, broadband started at 128 Kbit/s. In 2014 multiple markets will feature speeds of over 100 Mbit/s and higher. The steady growth in bandwidth has enabled, and will continue to enable a steady widening of the scope of services than can migrate online. For example, we expect faster broadband will help move aspects of healthcare online, with 100 million eVisits – online medical interactions – projected to take place globally in 2014. In the Middle East we foresee the eminent rise in eHealth and the disruptive effects of mHealth on the region's health sector.

The super-fast broadband speeds that are now increasingly available also enable more video to be delivered online, which is a key factor behind the tens of millions of homes expected to double up on pay-TV by subscribing to an additional broadband-delivered service. As a portion of viewing of TV migrates online, measurement has to follow to ensure viewing, particularly among younger viewers is captured. This year, viewing data for countries representing over 100 million viewers should start to incorporate TV consumption on laptops, tablets and smartphones.

Video-on-demand services are predominantly offered in fast broadband markets, however service is also possible in regions currently lacking extensive broadband infrastructure. The Middle East is at a key point as fibre-to-the-home (FTTH) broadband becomes implemented across the GCC. Satellites can relay movies and TV programs onto the ever larger hard drives of digital video recorders (DVRs), enabling providers to offer over a thousand hours of on-demand programming.

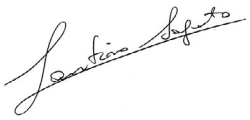
Most of our predictions focus on the next 18 months. However one topic, the emergence of Massive Open Online Courses (MOOCs) merits both a near-term assessment (modest adoption) as well as a longer-term view (significant take-up).

Most fundamentally to the development of the Middle East, we see small-to-medium enterprises (SMEs) in the region expanding their investment in information and communication technologies (ICT). As the region's SMEs acquire and build up their web presence, e-commerce and cloud computing capabilities, they will stimulate the region's economic growth going forward.

The focus of our Predictions varies from year-to-year, but one theme appears constant: the impact of TMT on our behaviors steadily deepens. In the time it took to read this foreword, over 100 million messages will have been sent via smartphones around the world.

We welcome your feedback. We remind readers that our aim with the Predictions is to catalyze discussions around significant developments in the dynamic TMT sector. We provide a view on what we think will happen, what are the most likely scenarios as a result and what the implications are for various companies. We do not however presume that ours is the last word on any given topic: our intent is to spark the debate.

We wish you all the best for 2014 and trust you and your colleagues find this year's Predictions a useful stimulant for your strategic thinking and market actions for the year ahead and beyond.



Santino Saguto
Consulting Partner and TMT Leader for Middle East
Deloitte & Touche (M.E.)

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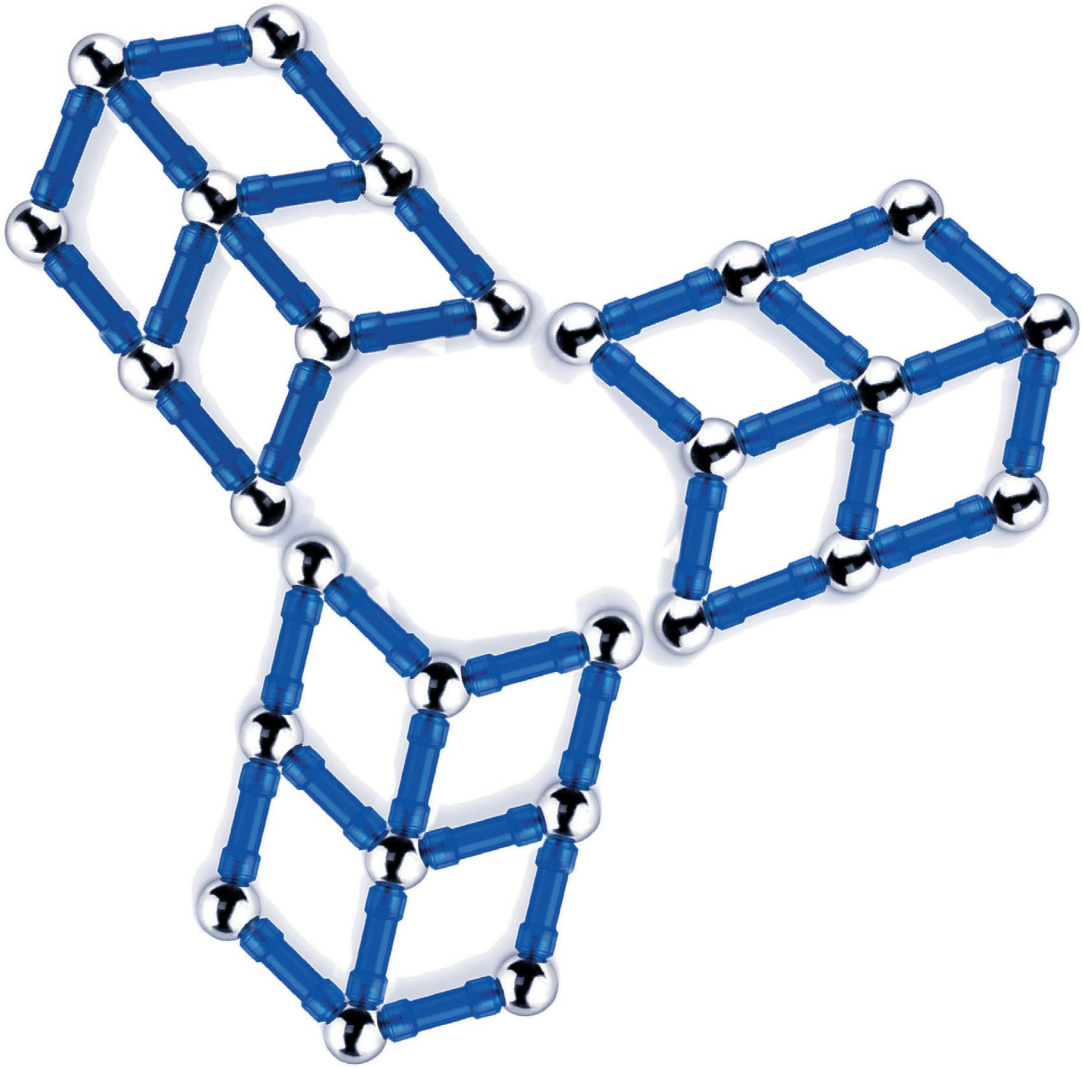
Technology

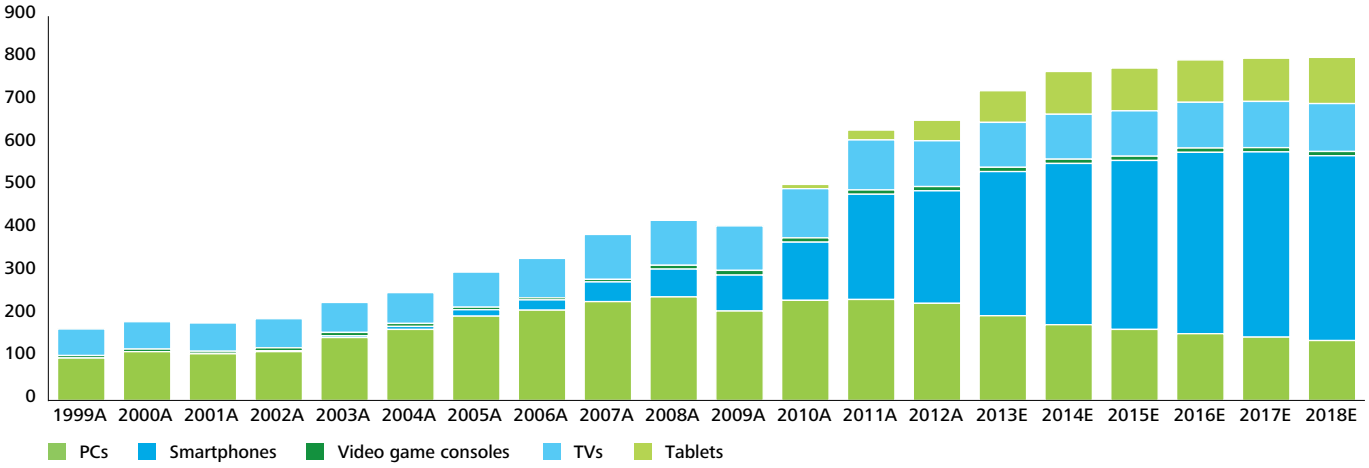


The $750 billion converged living room: a plateau approaches

Deloitte predicts that global sales of smartphones, tablets, PCs, TV sets and video game consoles will exceed $750 billion in 2014, up $50 billion from 2013 and almost double the 2007 total (see Figure 1)[1]. Combined global sales of these five products have grown remarkably since 2003, with trailing five-year compound annual growth (CAGR) of 6-12 percent per year over a decade (see Figure 2) (although year-over-year growth has fluctuated from a high of 27 percent in 2010 to a low of -3 percent in the recession year of 2009). In contrast, the growth rate for the global semiconductor industry was only 3.1 percent between 2000 and the end of 2012[2]. However a plateau appears likely: sales are expected to continue growing, but at a slower rate than over the past 10 years, with an estimated ceiling of about $800 billion per year.

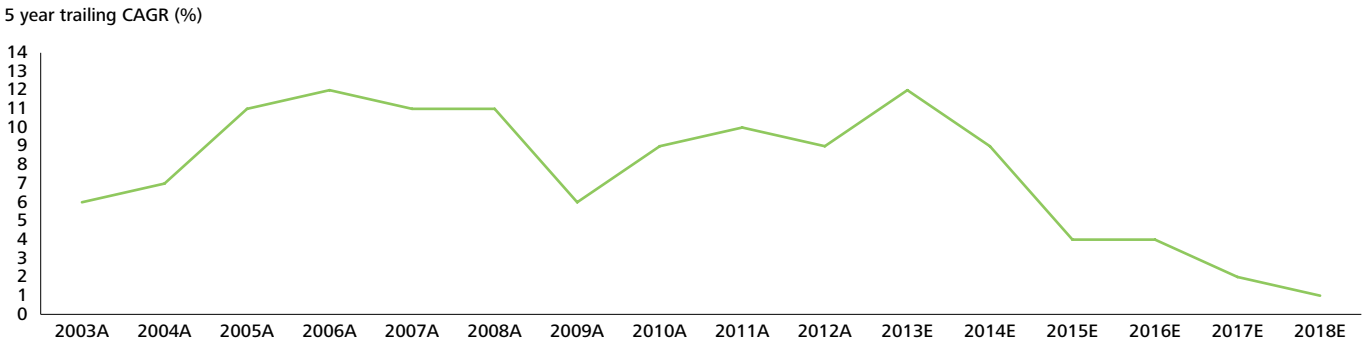
These five categories of consumer electronics devices are closely related in that they are currently the five largest by dollar value, are all multi-functional, and each plays a key role in entertainment and media consumption. Also, all five of these devices have benefited from common technology such as processors and screens (except for video game consoles, all of the devices make use of high resolution LCD technology)[3]. In contrast, other large segments such as portable video games devices, eReaders and feature phones tend to focus on a single function and thus have a narrower impact on general media consumption and entertainment.

Figure 1: Combined global sales revenues of smartphones, tablets, PCs, TV sets, video game consoles (1999-2018)



Source: Deloitte, 2013

Figure 2: Five year CAGR (2003-2018) for combined global sales revenues of smartphones, tablets, PCs, TV sets, video game consoles



Source: Deloitte, 2013

The simultaneous growth of these five devices created a virtuous circle over the last decade. For example, to supply the massive volumes of LCD screens required for large, flat HDTVs, manufacturers built plants capable of producing 400 million square meters of screens annually by 2013[4]. This drove prices for laptop screens down, which in turn focused research and development on better, smaller screens; which eventually led to high resolution screens for smartphones and tablets that made those devices much more appealing and useful.

There has also been a virtuous circle with solid state memory: the need for gigabytes of flash memory for each of a billion smartphones and tablets led to new manufacturing capacity and increased production volumes that lowered prices, which helped enable the creation of powerful gaming systems and ultrabooks. Also, massive economies of scale drove down prices for lower-end PCs, tablets and smartphones such that large numbers of less affluent families in emerging and developed markets could afford them. This further increased scale and enabled even less expensive devices, such as the $100 smartphone. Further, the virtuous circle doesn't merely enable the low-cost smartphone; it makes possible the perennially improving smartphone, as well as the $100 tablet.

These mutually beneficial forces allowed the five categories to grow at an aggregated average CAGR of 11.8 percent between 2004 and 2014 (estimated), almost four times faster than the underlying semiconductor industry, and almost twice as fast as global GDP, which in constant dollars grew at an annual rate of six percent between 2004-2014 (estimated)[5]. However, this impressive growth rate appears to be reaching a plateau.

Between 2006 and 2012, annual PC industry sales oscillated within a narrow band of $210-$240 billion. But in 2013, sales declined by 12 percent to under $200 billion, and many analysts forecast an additional four percent decline in 2014[6]. A constant decline in average selling prices (ASPs) means that while PC unit shipments may shrink by less than five percent annually over the next five years; revenues may fall at a faster rate.

The market for TV sets has also been shrinking since peaking at over 115 billion dollars in 2011: 3D technology, integrated connectivity, and voice and gesture control have not enticed consumers to upgrade their TV sets more frequently or at a higher price. Television set ASPs have been declining slowly since 2007; however, that erosion might be slowed or even reversed over the next five years by demand for Ultra High Definition (UHD) 4K TV sets, which are likely to command premium prices. Yet even with this possible boost, TV set sales in 2018 are expected to rise by less than $10 billion over the 2014 forecast of $105 billion.

New video game consoles were introduced in late 2013. Although early combined sales figures in markets where the new devices have been released have been higher than for prior generations of consoles[7], the console business, at around $10 billion per year, is unlikely to make much of a difference on the more than $750 billion base.

These trends suggest that smartphones and tablets need to be the main engines for growth in the connected living room market.

Sales of smartphones should continue to grow, in units and revenues, but the rate of growth is likely to decline. Globally, feature phones are now a minority of sales: the steepest part of the growth curve for transition to smartphones has already occurred. The smartphone upgrade cycle is lengthening: while some people still line up to be the first to own the latest phone, the average consumer is happy with their current phone for longer than in 2008 and 2009, when each new model was a dramatic improvement over the previous model. Between 2007 and 2013, the handset upgrade cycle lengthened by over 25 percent, from less than 19 months to more than 24 months[8].

The majority of smartphone sales over the next five years are likely to be in the developing world. These price-sensitive buyers are already having an impact on ASPs: in late 2013 the decline in smartphone ASPs dragged down overall mobile phone ASPs by four percent. While smartphone sales in 2014 are expected to rise to about $375 billion, a 12 percent year-on-year increase, smartphone sales in 2018 are only expected to rise to $430 billion, a 15 percent increase over four years.

In 2014, tablet sales are expected to reach 285 million units and surpass $100 billion. Falling ASPs are being driven by the growing share of compact tablets (8.5 inches or smaller), which are typically lower-priced. ASPs of classic format tablets (nine inches or larger) are declining. Overall tablet ASPs fell 10 percent in 2013, and if that price decline continues then annual tablet sales are likely to remain near the $100 billion level through 2018.

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Bottom Line
The living room's digital upgrade is nearing completion; peak disruption may have passed with no clear winner, except for the consumer, whose need for entertainment and media is now better served than ever at the hardware level.

In 2000 there were few connected devices. A few homes had PCs connected via a dial-up connection. There were video games consoles but they weren't connected; there were mobile phones, but not smartphones; there were books, but they were made of paper; there were televisions, but they were only used to watch TV shows and DVDs. Now, in 2014, the living room in developed markets is almost completely digital.

Over the period from 2000-2014 we have had a period of extreme turbulence, with nearly all aspects of the living room going digital and getting connected. Sometimes this led to profound changes in usage, such as watching TV with a second screen in our hands or on our laps. The music industry and video rental industries were transformed, probably permanently. On the other hand, alongside these profound changes, other behaviors haven't changed. Minutes of traditional TV viewing have remained about the same, even with the number of people paying for traditional TV growing over the same time frame worldwide.

It is important to note that the five categories discussed here are not facing a drop in sales, but merely a slowing of growth. Also, our prediction only extends to 2018: there may well be new developments that could cause the market for any or all of these devices to grow rapidly again after that date.

Further, as happened with tablets in 2010, a new category could emerge that generates annual sales of $50 or $100 billion, which would be big enough to move the needle.

The converged living room doesn't seem likely to have room for another "Next Big Thing", but moving outside offers an interesting possibility in smart glasses. Based on our 2014 prediction, first-year sales of these devices at $2 billion appear to be less than half the first-year sales for tablet computers, so they seem unlikely to be big enough in dollar terms. Also outside the living room, 3D printers, also known as additive manufacturing, might make "every home a factory[9]". That sounds like a promising new category except that the most optimistic analyst forecasts say 3D printers will sell only $5.7 billion by 2017[10].

To put the likelihood of another disruptive technology into context, since the 1970s there have only been three consumer device categories (PCs, smartphones and tablets) that generated over $100 billion in annual sales[11].

Hyper-growth of hardware sales in the last decade likely absorbed a significant share of the consumer wallet. However, as that growth slows, sales of software, services and content might accelerate. For example, slowing sales growth for flat screen TVs could free up money for multiple video services; lower growth in video games consoles might be offset by higher sales of video gaming titles.

With smartphones, a lengthening refresh cycle might reduce the need for carriers to subsidize phones in markets where that is common, and carriers may even want to encourage consumers to keep their phones for longer through innovative pricing plans. And in markets where phone purchases are not subsidized, it might allow consumers to spend more on data plans.

One interesting effect could be a deceleration in research and development costs for hardware manufacturers, as many consumers might refuse to pay for incremental technology improvements such as 100 megapixel cameras when 50 megapixels is good enough. At the same time, in a world of increasingly commoditized technology, spending on advertising might rise to stimulate demand and improve differentiation.

It is unclear what the implications might be for chip design: will device manufacturers respond to a plateau in growth by offering a new processor only every second generation, or will they try to claim a bigger piece of the same size pie by attempting to differentiate through even faster new processors?

The past decade has been especially challenging for those developing apps, content or software for devices. Sales growth was accompanied by an explosion in formats, aspect ratios, resolutions and operating systems, with developers forced to create a new version for every combination and permutation, or pick and choose likely winners. A plateau might provide a much needed respite for them, while helping to create a more stable environment with less fragmentation.

Wearables: the eyes have it

Deloitte predicts that smart glasses, fitness bands and watches, should sell about 10 million units in 2014, generating $3 billion. Of these wearable computer form factors, smart glasses should generate most revenues from sales of about four million units at an Average Selling Price (ASP) of $500[12]. Smart fitness bands should sell four million units, at an ASP of $140; smart watches should sell about two million units at an ASP of $200[13].

Smart glasses are go

The mass launch of smart glasses is likely to be met by skepticism and delight, as is customary with the launch of each new digital form factor[14]. And the first models of smart glasses are likely to appeal to, and be purchased by, a niche[15]. But at a global level the volume of early adopters in 2014 may well number in their millions, with demand increasing to the tens of millions by 2016 and surpassing 100 million by 2020.

This may seem an unlikely outcome for what is considered a new and slightly eccentric form factor, which has significant and fundamental constraints: smart glasses have to be transparent, may never work well in direct sunlight, and because they have low contrast are not suitable for long form video. The visible display size will always be small, for safety reasons, with fewer than 10 words readable at a time[16]; and the physical space available for a battery on the temple of the glasses is so constrained that adding cellular connectivity will be challenging[17].

But smart glasses are the next stage in the roll-out of digital connected screens in our professional, social and private lives. They represent continuity, not a brand new start, much in the same way that tablets were simultaneously new and familiar when launched in 2010. Consider that in 2014, billions of us will glance trillions of times at connected screens, from vast digital billboards to computer screens, and from car dashboards to smartphones. The addition of a tiny screen which is permanently in line-of- sight will complement the array of screens we already use: it may enable some of us to stay permanently updated with the flows of information we crave.

The initial price point for the sale of smart glasses in 2014 should be between $400 and $600, which for most people is a significant sum of money for a device whose benefits are largely unproven. Some units will cost thousands of dollars, but demand for these will be minimal.

Nonetheless, in 2014 there are likely to be tens of millions of individuals who would consider paying an average $500 for the first generation of smart glasses and millions who will actually purchase them.

These include: early adopters, for whom being at the bleeding edge of innovation is of paramount importance, even if the user experience in terms of interface and reliability requires further refinement; wealthy individuals for whom $500 would be a relatively small amount to pay (there are about 12 million people with investable wealth of $1 million in the world)[18]; and professionals whose job is to investigate the potential of new products such as smart glasses for increasing productivity.

Usage of smart glasses in 2014 is likely to focus on consumer applications, with enterprise usage becoming more prevalent later as the product specification improves.

The most common consumer usage of smart glasses is likely to be any screen based application that frees up the user's hands for other tasks. A typical usage should be navigation. For business travelers, a few instances of smart glasses helping the owner to arrive without getting lost – and being able to brag about it – may justify the purchase price[19]. For tourists, smart glasses will allow them to take photos and video by winking[20]. There may also be some video games applications, but the appeal of these will be limited by smart glasses' small screen size. Sports and fitness may also provide a rich context for usage, allowing participants to view performance metrics in real time, and analyze their performance as they play, bike or ski[21].

Industries most likely to benefit from smart glasses in the medium term include manufacturing, oil and gas. Analysts have estimated that smart glasses could save companies up to one billion dollars per year by 2017, through displaying instruction guides, relaying photos and videos, and interacting with remotely located experts[22].

These devices may provide another insertion point for advertising, whose messages may be linked to the user's location, product in line of sight, or a bar code.

Wearing a screen to the right of one's nose may appear a little strange at first. Talking to one's spectacles may also seem eccentric.

But talking on a phone in the street, and more recently talking via hands free kit have also seemed strange, as has taking photos with a ten inch tablet. Yet these behaviors have subsequently become accepted as normal.

The price of smart glasses will be a function of the bill of materials and the margins that vendors want to make on the product. We expect that initial component costs will be at least $200[23]: miniaturization does not come cheap. If the first batch of smart glasses sells out, we are likely to see ultra cheap versions sold at $100, mirroring trends seen in the early days of the tablet and smartphone markets. But these devices are likely to be as good as the components they are built on, and sell in modest volumes. As for the likely margins, we would expect that some vendors may trade high margins for other benefits, such as income from applications and the rich stream of consumer data, such as location, that these devices will generate.

The hundreds of millions of people who have contact lenses or have had laser surgery are likely to consider smart glasses, despite having invested in removing the need for spectacles to correct vision. There is after all a significant market in sunglasses, items which can cost hundreds of dollars per pair, and may last only a single season before requiring replacement[24].

The regional lens: smart peaking already

With the second highest smart phone penetration in the world[25], the Middle East is no stranger to smart technology.

A decade ago mobile phones with cameras were restricted in many Arab countries and even banned in Saudi Arabia (on privacy and security concerns). Camera phones' subsequent acceptance and high popularity has led to their successful adoption and penetration[26]. Similarly, the region has also embraced social networking with the likes of Facebook, Twitter and YouTube now featuring heavily in the fabric of Arab society. For a region often viewed as highly conservative and private relative to the rest of the world, the shift towards the adoption of new technologies has been remarkable. We expect this trend to continue as smart glasses launch in the region.

Recent events have demonstrated the region's intrigue in and appetite for smart devices. Recently a set of Google Glass Explorer glasses, the developer version of Google Glass, sold for $12,250 on Dubai's dubizzle.com[27]. This is eight times the price in the US and UK and almost two and a half times the price of similar units auctioned on eBay in other regions[28].

However, smart glasses' high price point may only be accessible to a wealthy niche. Early adoption will most likely be driven by the high net worth individuals section of society (with investable wealth of at least $1 million), representing an estimated 500,000 potential early smart glass adopters[29].

Even at a price of $500 for the commercial version of smart glasses, these are still expensive for the average price-sensitive Arab consumer. Such price pressures have already been experienced in the Middle East smart phone market, where their ASP has declined to an estimated $338 in 2013 and is expected to drop further still to $230 by 2017[30]. Miniaturization is expensive and it may be a greater technical challenge to build smart glasses than smart phones, so prices for smart glasses may not fall as fast as they did for smart phones. Corresponding smart glass affordability and uptake by the wider Middle East consumer base should therefore be more gradual over the longer term.

Nevertheless, regional organizations and individuals fortunate enough to obtain a set of Google's Glass Explorer are recognizing the vast range of possibilities and are certainly finding innovative ways of using and putting this new technology to the test.

Smart peaks of the Middle East

Smart glass MasterPass: UAE telecoms operator Etisalat in partnership with MasterCard Labs has been working on connecting the MasterPass digital wallet with Google's smart glasses to enable consumers to use their smart glasses to shop online[31].

Mobile "first-person" journalism: Journalists from Vice Media used Google's smart glasses in their coverage of the recent protests in Istanbul and Cairo, performing first-person hands-free live recordings in conjunction with apps such as Google Translate to communicate with locals[32].

IntelliVue patient monitoring smart glass solutions: Philips has developed a hands-free solution which links Philips IntelliVue patient monitoring software to Google's smart glasses, enabling healthcare providers to view vital patient data remotely on the move and for decision support in the middle of an operating procedure. Philips is working closely with the Saudi private healthcare sector and Saudi Ministry of Health to potentially bring this solution to the Kingdom as part of their joint initiative in tailoring innovative solutions to solve existing challenges and shape the future of healthcare in Saudi Arabia[33].

Smart peaks of the Middle East

Smart 3D augmented reality glasses: Atheer Labs, founded by a Lebanese entrepreneur, has developed lightweight smart glasses that offer an augmented reality display with a 65 degree field of view in 3D. Users can exercise with virtual targets, play 3D games and conduct conference calls whilst browsing online. The device is supported by hand sensors and an advanced algorithm but needs to be connected by a cable to an Android mobile device. Priced at an ASP of $350 the new device serves as a potential alternative and competitor to Google's smart glasses, which only displays a 12 degree frame in 2D in the corner of one's view[34].

As the smart peaks above show a promising array of smart glass solutions, their real test and long term sustainability will be in their actual range of usefulness to the Arab consumer, especially if they have to spend hundreds of dollars to acquire them.

As we have seen with smart phones, the key to unlocking and monetizing smart glass usage in the Middle East is through local development of region specific applications, tailored specifically towards the Arab consumer's evolving digital needs[35].

The strong level of interest, curiosity and opportunity in the potential applications of smart glasses will certainly spur regional development in this space. It is therefore only a matter of time before the region's smart app ecosystem will evolve to a point where slowly but surely, Arab eyes will have it.

Smart fitness bands: moderately healthy

The smart fitness band, a form of wearable computing typically worn on the wrist, should enjoy reasonable demand in 2014, but the market for such devices may never be mainstream. Smart fitness bands measure a range of activities from paces walked to hours slept, and tap into the trend for the 'quantified self', whereby many aspects of one's activity and being are measured[36].

Interest may not become mainstream, even in the medium term.

There are likely to be two categories of buyers for these devices. One is sports enthusiasts who already undertake a lot of exercise and wish to track their activity. They are likely to focus on high end devices that provide highly accurate measurement of a range of functions. The second and much larger category is individuals who may buy, or be gifted, a fitness band in order to effect a change in their behavior, hoping that by measuring the exercise they take, they will exercise more.

However, for this group smart fitness bands may simply confirm, via an app or otherwise, a long term lack of interest in exercising, and as such the device may cease to be used following an initial burst of enthusiasm[37].

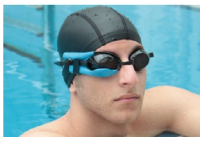
A further, significant barrier to smart fitness bands becoming mainstream is the incorporation of advanced satellite navigation, accelerometer, gyroscope and compass in a growing range of smartphones[38]. Owners of high end smartphones that offer these functionalities are likely to number in the high tens of millions in 2014 and may decide that they do not need to spend an additional $100 on purchasing a fitness band[39].

Young but less active in the Middle East

Tracking physical and sporting activity may be of low appeal to the region's consumers due to the levels of physical activity. The Middle East's population is young, with half under the age of 25[40], but is also relatively inactive[41], with as much as 60 percent of GCC inhabitants classified as insufficiently active[42]. Between five and ten percent participate actively in sports[43], which suggests a much lower addressable market for smart fitness bands in the region.

That said, smart fitness as a concept is generating some interest amongst individual sports enthusiasts and certain investors in the region.

Mini case study: Instabeat[44]



Instabeat, a small sports technology start-up set up by a Lebanese entrepreneur in 2011, is a key example, which has gained traction through crowdfunding and certain Middle East technology investors.

In partnership with a Chinese manufacturer, Instabeat has been developed as the world's first waterproof heart monitor, mountable on goggles and capable of providing swimmers with real-time visual feedback on their swim to help them reduce their drag.

Despite the home-grown inspiration, the smart fitness device has attracted more international acclaim and interest as opposed to local, as the first batch of the product is planned to be shipped out to 47 countries worldwide, targeting international sports consumers.

Depending on international sales success, Instabeat may also explore similar wearable technologies for other sports including skiing, bicycling and running.

Instabeat's application and initial success highlights the criticality of line of sight, and how it can also threaten smart fitness bands as the more dominant form factor for sports and fitness as well.

Less time for smart watches

We expect smart watches to sell approximately two million units in 2014, typically priced at $150-$300. They are likely to remain specialist devices and be outsold by smart glasses over the long term[45].

This may seem counter-intuitive. After all, the value proposition for watches is well established. People have worn watches to tell the time, and to display status or wealth, for hundreds of years. By comparison, attaching a screen to a pair of glasses and then talking to the device may seem unnatural.

But arguably checking information on a wrist is a declining practice, whereas putting information in our line of sight, either via smart glasses or by placing a smartphone in the field of view, is an emerging one. Watches mattered from a practical perspective when they were the only way to tell the time[46]. Today smartphones have assimilated most of the functions of an advanced wristwatch, and synchronize the time with mobile networks which rely on atomic clocks[47]. If users glance at their smartphone 120 times each day, they should already have a pretty good idea what time it is. Further, there are a host of other displays that show the time, from PCs to ovens, and the need for a wristwatch is diminishing especially among young age groups[48].

Conversely, integrating smartphone functionality into a device that fits on the wrist is challenging, and entering data on small panels is tricky. Smart watch screens are small relative to those on smartphones, so the smart watch has to act as a companion device to a smartphone. Further, traditional watches trade on their ability to go for long periods without requiring a new battery or winding up, and smart watches that are not based on e-ink may need charging every day.

Incorporating smartphone capability into a watch is not cheap, and while a $200-$300 smart watch may cost less than smart glasses, there is likely to be little incremental benefit from having a smart watch in addition to a smartphone[49].

Middle East: fashionably late

Although the incremental benefit of a smart watch may be marginal, and users may not glance at them as frequently to tell the time, on the wrist they are the most visibly displayed form factor for the longest period of time. For this reason, consumers in the Middle East are more likely to buy into their aesthetic value as a fashion or status symbol[50 51], with the desire of being seen as trendy and cutting edge. At least in the Middle East, design for this form factor is the critical success factor and of paramount importance.

However, designs of smart watches today are seen to be on the bulky side and still have some way to go before they match up to the higher aesthetic standards traditionally required from wrist watches[52]. Consequently, Middle East consumers have not so far bought into smart watches, which has reflected in disappointing sales in the region for smart watch makers[53]. Smart watches therefore have to be more pleasing to the eye, more 'sleek' and stylish if they are to appeal to Arab consumers. After all, the Arab consumer has to look good. Until designs improve, local uptake is therefore likely to take its time.

Bottom line

Wearable computing is a tantalizing and lucrative market, which is presently characterized by a degree of uncertainty.

A significant grey area is regulation, which has a major bearing on the potential market size. For example, there may be questions about the usage of smart glasses, which potentially enable anything heard or seen by a smart glasses user to be captured, shared and archived[54]. However smartphones already have a similar capability to capture video, stills and audio, so smart glasses' ramifications on privacy are not wholly new[55].

Smart glasses may well get prohibited in some environments – such as in some schools, courtrooms, board rooms and golf courses, where smartphones are already banned – but that still leaves many other places where they could be used. It is worth considering that in some venues, such as restaurants and clothes stores, taking photos is actively encouraged and the quantity of photos taken, shared and rated is considered a positive.

Smart glasses are unlikely to be allowed when driving. In some jurisdictions, current laws make it explicitly illegal to have a monitor capable of displaying video in the field of view of a driver[56]. It is not necessary for the police to prove that the driver was watching video instead of the mapping function: merely wearing a device with the capability is against the law.

A key imperative for all wearable device manufacturers is the need to foster app development: having a large range of apps will be core to the devices' utility[57]. A challenge will be to get developers to create apps for a category of device with relatively few users. For smart glasses, apps would need to be built from scratch: existing apps cannot be used for glasses, which are fundamentally different from a smartphone or tablet. That said, early adopters tend to have a high propensity to purchase apps, and so may be a small but lucrative market[58].

As well as apps, another ancillary market will be in complementary devices. For example, one device combines with smart glasses to enable remote control of devices, such as television sets[59].

The capability of wearable devices is likely to improve continually, but expectations should be set carefully. There are fundamental constraints of battery technology, acceptable weight and the bulk of wearable devices. This means that some notions, such as full screen augmented reality built into a regular pair of sunglasses, priced at $500 and with integrated 4G, is many years off – and may never be realized.

Trends such as the ageing of many nations' populations, widening cellular connectivity, and the move towards telemedicine (for more information, see the 2014 Prediction: eVisits: the 21st century housecall) may signal significant opportunities for wearables in the medium and long-term. Wearables may serve as sensors that are always in close proximity to the user, and could become a new communications platform providing larger images to those with dimming sight, or text messages to those with failing hearing. The combination of sensor, actuator and communicator may prove to be a compelling value proposition to patient, physician and insurance companies alike.

Middle East perspective

The Arab youth are well characterized as early technology adopters[60], with clear enthusiasm and interest in the new digital form factors represented by wearable technology.

However, as wearable devices come into the local market place, a range of issues and obstacles present themselves. The first, from a consumer perspective is economic. Most consumers are price sensitive and will certainly be restricted by their budgets, limiting their ability to adopt wearables in the short-term.

The local internet and telecommunications infrastructure in the region also needs to be more developed, in terms of internet speed, coverage and capacity, as it is in Western markets. All three technical factors need to be in place if users are to enjoy the full range of capabilities that wearable technologies can offer.

Another unknown is the reaction by society and government once the new technologies take hold. Will authorities in the Middle East fear or embrace the use of wearable devices? Will consumers be responsible with their new gadgets? Although camera and smart phones are prolific in the region today, they had been the source of much controversy stirred in the past. The fact that smart glasses enable pictures to be taken more seamlessly with the wink of an eye is one example that could reopen the debate, especially in a region traditionally more conservative and private than the rest of the world. Middle East authorities should be wary of this and work with other governments to establish a common regulatory framework and set of usage standards which are in the best interests of all.

Conversely, time and time again, the region is also well known to adopt methods, standards, tools and technologies once they are proven in the Western world, even if it is at a slower pace in many cases. With all six GCC governments leading strong mobile and e-government initiatives to improve their complete spectrum of government services, from utilities, transport, police, customs and municipalities to health services, bill payments, education, research and gathering citizen feedback[61], the public sector could even be one of the primary drivers behind wearable adoption.

One became many: the tablet market stratifies

Deloitte predicts that in the first quarter of 2014, the installed base of compact tablets (with screens smaller than 8.5 inches) will surpass the base of classic tablets (8.5 inches and larger) for the first time. By the end of Q1 2014, we expect the base of compact tablets to be 165 million units, slightly ahead of the classic tablet base, with 160 million[62]. Compact tablets will have taken segment leadership within about 18 months of the first mass-market models (with sales of at least five million units) coming to market, and within four years of the launch of the modern tablet category. The surge in compact tablet sales is accompanying a stratification of the tablet base, similar, but possibly ultimately more profound to that experienced in the smartphone market in the last two years[63].

In 2014, the tablet market is likely to comprise an ever more diversifying range of devices, with key differences aside from size, being weight, processor speed, memory capacity and price. Each tablet model's combination of attributes will determine the likely users and patterns of usage.

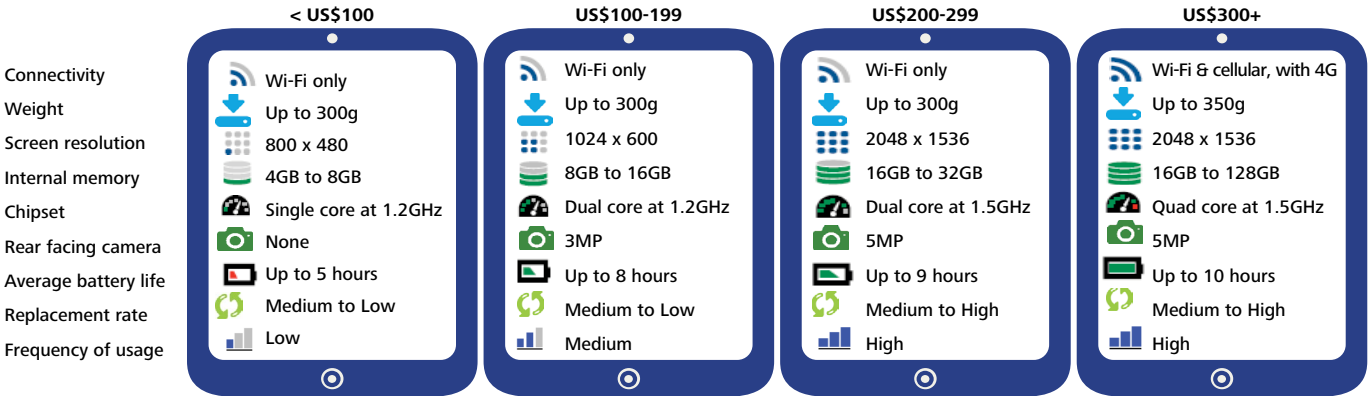
Differences in screen area have major implications on the usability of content: a 10-inch tablet has 50 percent greater screen area than an eight-inch tablet, and may have double the screen area of a seven-inch tablet[64]. Most web pages designed for access on a PC render well on a 10-inch tablet, especially ones with a high resolution screen. As of year-end 2013, the majority of websites are designed for PCs, and PC web page views represented the majority of page views in most regions, including those with high tablet and smartphone penetration. However the same page may be hard to read when viewed on an eight-inch screen, and is even more challenging to read on a seven-inch screen.

Screen size becomes particularly critical for applications that require form filling such as e-commerce, and has implications for watching video, with smaller standard-resolution devices less suited for long-form video.

Screen size also has a bearing on the weight of tablet models. The median weight of the installed base of 10-inch tablets is about a third heavier than for eight-inch devices, and about double the weight of a typical seven-inch device[65]. The weight, as well as the size, influences how devices are likely to be used[66]. Smaller, compact devices are more likely to be carried around; the classic tablet, while perfectly portable within homes, venture outdoors less frequently. Weight also affects the suitability of each tablet model for different genres of games. Smaller and lighter tablets may be better for games that use motion sensors, and require moving the device around. Larger devices may tire the user out, but their larger screens are more suited to board and strategy games. Smaller, cellular-equipped tablets may also be more apt for enterprise e-mail usage: they add less weight to an already congested briefcase or bag.

Compact tablets are generally lower-priced, as vendors of smaller tablets are likely to have different business models than those selling larger tablets[67]. Retailer-branded tablets are likely to be sold at or near cost, with monetization resulting from product sales generated by the device[68]. The lower price of compact tablets is a principle driver of their adoption. But a lower price also implies lesser specifications, and along with that a more limited capability. For example, processor speed also affects ability to play graphics intensive games[69]. Figure 3 provides an indication of what each level of spend offers.

Figure 3: Tablet specification by price band



Source: Deloitte, December 2013.

Note: The specifications refer to popular models in each price band

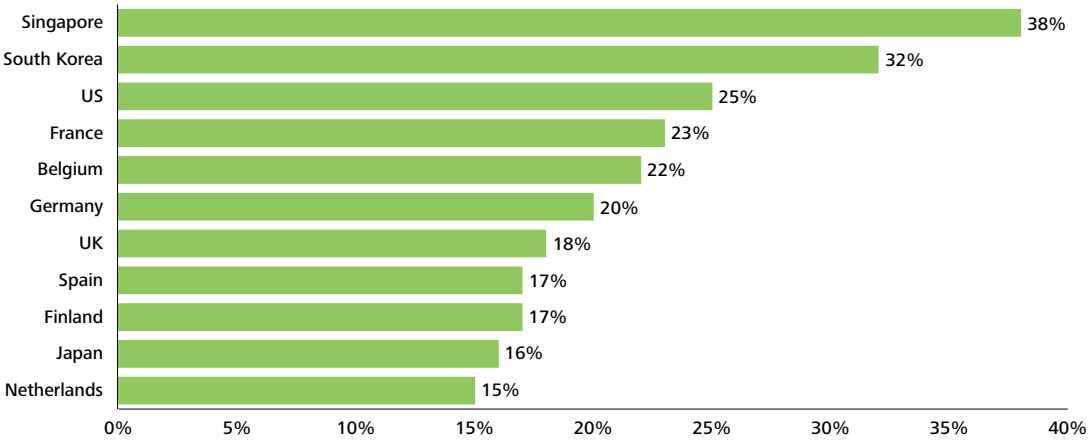
The growing range of tablets is leading to a diversifying ownership profile. Owners of the first tablets tended to be relatively prosperous, that is individuals who could afford a $500 tablet in addition to a laptop computer. These individuals tended to have a higher propensity to purchase online[70]. More recent owners of tablets include those for whom the tablet replaces an existing device, such as a handheld games console, or a netbook computer. These owners may be far less likely to use e-commerce, and in some cases may rarely use their tablets to go online, as the device's primary function may be to play games. Owners of lower-priced compact tablets may be much less inclined to buy apps and content, and make other purchases via their devices. The inclination to engage in these activities may be limited by lower levels of user literacy with digital devices, and perhaps age – many low-cost compact tablets are purchased for children as substitutes for dedicated portable games consoles[71].

The widening array of tablet form factors and price may also encourage ownership of more than one tablet. In developed markets, on average 20 percent of consumers own both a large and a compact tablet (see Figure 4). Whilst some of these are early adopters who would typically sample any exciting new product, many more have two tablets for a reason. Oftentimes the second, smaller tablet – being more portable – is used on the move, whereas the larger device stays at home, used for more visually demanding tasks such as games and video. In other cases, one device is for work, the other for personal use. In still further cases, one device is shared with other family members, the other is uniquely personal.

Figure 4: Medium tablet owners that own or have access to a large tablet

Question: Which, if any, of the following portable devices do you own or have ready access to (tablets)?

Proportion of medium tablet owners having a large tablet



Source: Deloitte Global Mobile Consumer Survey, Developed countries, May-June 2013

Weighted base: (Medium Tablet owners): Belgium (183); Finland (90); France (182); Germany (203); Japan (134); Netherlands (386); Singapore (443); South Korea (228); Spain (430); UK (609); US (263).

Bottom line

Tablets have gained popularity with extraordinary speed, and manufacturers will have to work hard to stay on top of the evolution of the market. There appear to be more users and use cases for tablets than many had imagined. Getting the balance of form, function and price right will likely be a moving target during 2014, especially at the lower end of the market. Whereas the large tablet market has generally been highly lucrative for manufacturers, the surge in smaller low-cost models may dilute levels of income and profitability. Manufacturers should research usage carefully, so as to understand users' needs and expectations across the whole category, and design devices that comprise only the components that are necessary. A first time buyer is more likely to become a repeat purchaser if their first device performs well in terms of battery life and screen quality, even if that comes at the expense of integrated GPS or a massive hard drive.

Apps developers and website owners need to research in more detail how users of different types of tablet interact with content, and which legacy features frustrate. They should note that there is a substantial variance in screen size, which will impact interface design. As more web access moves to the touch screen, the size, shape and function of HTML links, buttons and other features will likely need to adapt.

Mobile carriers need to identify which models of tablet are most likely to be used over a cellular network. The compact premium tablet may be the most suited to a cellular subscription in 2014. Their size makes them more likely to be carried around and used on mobile networks; their owners are more likely to be able to afford an additional mobile data subscription. In some markets, tablets could be added to pooled usage tariffs, with various devices using one monthly data bundle. For Wi-Fi only tablets, owners could be encouraged to pair these with their smartphone's tethering capability. This is not as elegant as having integrated mobile broadband, but it works, even if it can drain the host smartphone's battery. For everyone else, mobile operators with hot-spots could offer access to their network.

Fixed operators with no mobile coverage could also target Wi-Fi only tablet owners by offering them access to their Wi-Fi hot spot networks, either as a separate subscription, or as a feature within existing fixed line services subscriptions. Tablets are often used when stationary, and Wi-Fi capacity should be located wherever people tend to linger, such as shopping malls and train stations.

Marketers should consider how to vary strategy by tablet model. In some regards, advertising on smaller tablets is harder. When the average screen size for a tablet was over nine inches they generated around $7 advertising income, per device, per annum[72]. As the average screen size falls, display ad revenue may be impacted, but not necessarily negatively, as the greater portability of compact tablets may increase hours spent with these devices.

Content providers should focus specific attention on where, when and why different form factors are used. Larger devices lend themselves to movies, video and television; smaller devices tend to be used more commonly for text such as the web, books and magazines. As the tablet becomes more mainstream and widespread, entirely new content formats may be warranted; but as a basic minimum, optimizing existing formats for different form factors will likely be required.

Enterprise CIOs should assume that falling prices and increasing capabilities of tablets mean that they are more likely to be used in a work capacity[73]. The right approach depends on each company's specific context. For some, the right answer may be to block access by any device not provisioned by the IT department. For other companies installing strong authentication solutions and partitioning tablets to have separate professional and personal areas is the solution.

Companies with field force departments should also constantly review the growing range of tablets launching on the market, to assess whether a combination of a consumer-oriented device, combined with a robust case, costing a few tens of dollars, may be sufficiently resilient to be suitable for use for staff working outside of office environments (for more information, see the 2014 Prediction: Ruggedized devices at $250: reinventing the business case for mobile field force).

Limited storage means less room for apps and content, and lower processor speeds often means apps running slowly, or not at all. Low screen resolution often means pixelated video and poorly rendered images and text. While some consumers, especially younger ones, may have low expectations and will be satisfied with such performance, for many consumers, the low-cost tablet will represent a false economy.

Massive Open Online Courses (MOOCs): not disruptive yet, but the future looks bright

Deloitte predicts that by 2014, student registrations in Massive Open Online Courses (MOOCs) will be up 100 percent compared to 2012 to over 10 million courses, but the low completion rates mean that less than 0.2 percent of all tertiary education-equivalent courses completed in 2014 will be MOOCs. The growing awareness of online education will force educational institutions to increase investment in this area, drive more acceptance of online education as it becomes accredited, and increase adoption by corporate training groups.

The idea that MOOCs will cause imminent disruption of the existing tertiary education market (also known as higher education or post-secondary education) appears frequently in the media. While this hype creates interest, most large educational institutions will experiment with MOOCs, but they will not disrupt education significantly in the near term. Enterprise training and continuing education looks likely to be the fastest adopter of MOOCs, with significant growth in 2014 and 2015. Although the for-profit and not-for-profit tertiary education market is the largest, at $400 billion per year, the corporate skills development market is not small, at $130 billion annually[74].

Predictions normally looks only at the next 12-24 months, but there appears to be a "perfect storm" of conditions that could make MOOCs a major factor by 2020, representing over 10 percent of all courses taken in tertiary and enterprise continuing education. We discuss this perfect storm after exploring the state of MOOCs in 2014.

Alternatives to in-person education are not new: arguably the first occurred in 1895, in the shape of correspondence courses distributed by mail. In 1921, courses were offered over the radio. In the 1950s, televised courses emerged, and in 1962 Stanford offered the first course on a computer network[75]. Now, most universities and colleges offer at least some courses online, many governments offer training courses over the Internet and more than 75 percent of large organizations use online courses as part of their ongoing employee training processes[76].

How are MOOCs different? They are massive, with potentially millions of users. And they are open: available to anyone, often for free or at minimal cost, much less than a traditional university or college course.

Today, when a tertiary educational institution offers a first year physics course online, it is typically available only to students who have been admitted and enrolled in that school and the tuition is the same as for the traditional version. MOOCs are more efficient because they avoid duplication of effort: first year physics courses tend to have very similar content at every university, which means MOOCs could be used to make a single, well-designed online version available to anyone, for a relatively low fee.

Online training courses on spreadsheet use are common at accounting firms, but tend to be restricted to a firm's employees. However, spreadsheet skills are fairly universal: what if a single, extremely well done spreadsheet course was available to anyone? Enterprises are already beginning to adopt MOOCs for this kind of training.

At the moment, one of the biggest differences between traditional education and MOOCs is the completion rate: one survey found that 93 percent of students who register for a MOOC fail to complete their prescribed course of study[77]. By contrast, most people taking a university course or corporate online training course want to complete it, need to complete it, and keep trying until they pass[78]. There are exceptions, with some students only "auditing" a course for the sake of learning, but this is rare. Even at universities where dropout rates of 50 percent make headlines, students are still completing their education at a rate seven times higher than the average MOOC.

Why is the MOOC completion rate so low? Not because courses are not enjoyable. One study found that 91 percent of students ranked their MOOC as good, very good or excellent – even though only four percent of those who registered ended up completing the course[79]. Nor is it that MOOCs don't teach subject matter well enough: one experimental Artificial Intelligence course at Stanford was also offered as a MOOC, and 410 online students got better marks on the final exam than any of the in-person Stanford students. Other studies provide early evidence that MOOCs lead to equivalent educational outcomes[80]. Also, MOOC pedagogy is still in its relative infancy: traditional university courses have had centuries to perfect their teaching and learning methods, compared to less than five years for MOOCs. It appears that, at present, the vast majority of MOOC students that register have goals other than finishing the full course.

Some might be trying out the MOOC format; some might be merely curious. But the number one aspiration is "to learn more about a subject area," not to complete a prescribed curriculum[81].

Given this crucial fact, MOOC registration numbers in the millions need to be viewed in context. There are approximately 100-125 million students enrolled in traditional tertiary and corporate education globally, many of which are taking and completing the equivalent of eight to 10 courses per year, resulting in around one billion non-MOOC courses completed annually[82]. While the top-line growth in MOOC registrations looks impressive, Deloitte predicts that MOOCs completed will represent less than 0.2 percent of all tertiary[83] courses completed in 2014. This suggests that MOOCs' near-term disruption of the $1.5 trillion global market for tertiary education[84] will be minimal.

So, after all the media hype, why haven't MOOCs created more disruption yet?

Despite the view that 'education for education's sake' is a good thing, most people expect something tangible in return for their investment of time and money. Although tuition costs vary widely, fees for tertiary education in mature markets such as Canada, the UK, and the US are typically around $10,000 per year[85]. So a free or low-cost MOOC course offers enormous savings. But in 2014, completing a MOOC course and receiving the course credit carries less weight than passing a traditional or university-sponsored online course: in many cases the credit the student receives is not considered a proper "credential" by the institutions that care most about education.

To enjoy success with tertiary-level students, MOOC course credits need to be fully recognized by some or all of three different groups: government, employers and educational establishments.

Some governments consider enrollment in tertiary study as a factor when providing social assistance benefits and many don't require repayment of student loans as long as such study continues[86]. Also, some jurisdictions offer tax benefits or military exemptions related to student status[87].

In 2013, governments were just starting to debate whether enrollment in MOOCs would satisfy these kinds of requirements[88], and it could be years before the debate is settled.

Employers often require formal levels of tertiary education for new hires, or as part of re-training or on-the-job learning. Requirements can range from full graduate and undergraduate degrees and professional designations to two-year diplomas or even completion of single courses. In 2013, only a few employers recognized MOOCs completed and passed as meeting these requirements[89]. Also, many enterprises are reluctant to accept MOOCs as full degree substitutes: according to one survey half of employers would not consider hiring someone who had earned their degree completely online[90].

However, not all education is degree level. Many employers, from web portal companies to steel pipe manufacturers, are enthusiastically adopting MOOCs for internal corporate needs[91]. In fact, one survey found that 70 percent of companies are interested in MOOCs for corporate training, and 31 percent have active plans to use them[92].

Traditional educational institutions are taking a much more conservative approach to recognizing MOOCs: in 2013, it was estimated that very few accredited tertiary educational institutions accepted MOOC credentials, and few students even bothered to take advantage of such credits[93].

Education is a source of revenue for traditional education institutions, but is a cost for governments and enterprises, so it's not surprising that they might be more eager to accept MOOC credits than are universities and colleges, who may see low cost MOOCs as a threat to their business model.

Some early evidence suggests that MOOCs do not lead to inferior educational outcomes[94], so credentialing is likely the biggest impediment to MOOCs becoming truly massive. Resolving this issue might be all that is needed for MOOCs to achieve their disruptive potential.

MOOCs in the Middle East: bright sparks already

The debate and hype surrounding MOOCs is also one that has extended amongst key figures, authorities, institutions and industries in the Middle East, arguably more so than in many other parts of the world. In a region where over 60 percent of the population is under 30 years old[95], youth education and employment has become a burning issue over the past five to ten years. The debate surrounding the potential for MOOCs as another solution is therefore not one to be taken lightly in the region.

Over the next few years, the Middle East could see the rise of the Arabian MOOC (AMOOC). New local platforms, in partnership with local professors and universities, may emerge to launch new localized AMOOCs, attended by more Arab users than in 2013[96]. Compared to other regions, the user base will still remain small, as wider systematic disruption and acceptance will take many years to happen, given the challenges MOOCs currently face in general.

Across the region, there are currently several bright sparks of MOOC activity. In Egypt, MOOC aggregator Skills Academy (formerly known as eduudle) was launched in early 2013 and now has over 8.1 million users[97]. In Saudi Arabia, Rwaq, a platform developing and disseminating local academic expertise online has already attracted tens of thousands of local users since its launch in September 2013[98]. In Lebanon, a beta version of Menaversity launched in November 2013, offering AMOOCs on professional and practical skills[99]. In Jordan, the Queen Rania Foundation (QRF) has partnered with MIT and Harvard's edX to form Edraak, a new MOOC platform expected to be launched in 2014 whose objective is to educate over one million Arab youths by 2018[100].

Across the rest of the Middle East, MOOCs have also steadily been gaining more attention in education conferences hosted by local universities and establishments[101]. International MOOC providers such as Alison, Khan Academy and Coursera have also penetrated the Middle East through partnerships formed with local translation entities Silatech (Qatar) and Taghreedat (UAE)[102].

MOOC beneficiaries cover various sections of Arab society: the unemployed looking for work, aspiring youth entrepreneurs, women on maternity leave and with family commitments, as well as eager learners of all ages who seek to develop their interests. Providers such as Edraak and Menaversity are well-positioned in Jordan and Lebanon to use the real power of their MOOC platforms as a solution to educate refugees from neighboring Arab countries.

Geographically, Saudi Arabia holds the largest Arab student base enrolled in educational institutions, with 75 percent, the next highest at 8 percent is in the UAE[103].

With the broad market appeal, significant activity has been observed but as with MOOCs generally it is not yet clear how this enthusiasm can be converted into a sustainable business model. It is clear that the private sector is driving MOOC developments and most likely will continue to do so. However, investment is required. For example, Edraak was reported to have received about $10 million in QRF startup funds[104].

Over the next few years, the Middle East could see the rise of the Arabian MOOC (AMOOC). New local platforms, in partnership with local professors and universities, may emerge to launch new localized AMOOCs, attended by more Arab users.

Figure 5: Landscape of recent MOOC activity across the Middle East

Edraak

- Founded by the Queen Rania Foundation with $10 million in startup funding, Edraak was developed in partnership with edX, a not-for-profit online learning platform setup by MIT and Harvard
- Edraak offers selected edX courses from MIT, Harvard, UC Berkeley and other institutions in Arabic for free
- Expected to launch in 2014, Edraak is in talks with local universities and professors to provide AMOOCs with region specific content in Arabic
- Edraak aims to boost education prospects for the Arab world, especially Arab youth and women

MOOC Recognition

AUK alumni were recognized and awarded certificates of achievement in Jan 2014 for completing MOOC courses offered by Duke University

Menaversity

- Beta version launched in Nov 2013
- Offers AMOOCs on topics which lack educational material for Arabic speakers ranging from social media to Lebanese cooking

MOOC Partnerships

Alison and Silatech partnered in June 2013 to provide Arabic language MOOCs to develop Arab youth employability

MOOC Conferences

MOOC's were debated in the Qatar Foundation's annual World Innovation Summit for Education (WISE) conference in 2013, which may continue in 2014

MOOC Partnerships

Taghreedat partnered with Khan Academy in Nov 2012 to subtitle their course videos in Arabic and Coursera in May 2013 to translate their courses to Arabic

MOOC Conferences

Universities such as AUS and e-University are hosting education conferences with debates on MOOCs in 2014

Skill Academy

- MOOC platform launched in early 2013 (formerly known as eduudle) which serves as a MOOC search and directory tool, similar to TripAdvisor for travel
- Offers over 10,000 MOOCs with over 8.1 million users
- Soon to offer skill camps built for specific sets

Rwaq

- An AMOOC platform launched in Sept 2013
- 14-15 AMOOCs ranging from social media, religion to arts and psychology
- Content is fully native, developed by local professors in Arabic (i.e. AMOOC)
- Income is earned through licensing its platform and providing associated services and consulting
- Received a very positive reception locally from public and education institutions, with tens of thousands of users within its first 2 months
- Tipped to be a regional hub for AMOOCs

MOOC Research

Since 2011, Sultan Qaboos University have been studying online Arab learning culture and how Arab students would respond to MOOCs

- No significant MOOC activity
- Evidence of some exploration and interest in MOOCs
- Active MOOC partnerships and conferences with major e-government and e-education initiatives
- Higher MOOC activity, where Arabic MOOC platforms originated

Source: Deloitte research & analysis

The long term

There appears to be a confluence of major trends and conditions that will likely lead MOOCs to cause disruptions for students, governments, the educational industry, the pace of innovation, continuing education, the digital divide, and society at large.

Cost of education to individuals. The single biggest driver of MOOCs adoption is likely to be their relatively low cost relative to traditional tertiary education: this is a trillion dollar issue over time.

While there are many different models for how students pay for tertiary education, in countries where students pay for a significant portion of tuition and books, the cost of traditional education has been climbing much faster than inflation: in the US, for example, since 1985 the consumer price index has risen 115 percent, while college tuition has risen almost 500 percent[105]. The money that students can earn at minimum wage has not kept pace, therefore US student loan debt has gone from just over $200 billion in 2003 to almost $1 trillion in 2012 while other lending, such as auto loans and credit card debt have stayed in the $600-800 billion range each over the same time frame[106].

This sharp rise in student debt would be less of an issue if it positioned students to find jobs that paid well enough to repay the loans. Unfortunately the reverse is true: the cost of public four-year college tuition and fees in the US is rising faster than the average earnings of full time workers aged 25-34 with a Bachelor's degree only: 72 percent growth in tuition since 2000, versus a 15 percent decline for earnings over the same period[107].

Cost of education is a major factor in the Middle East for all income groups. For example, private school fees in the region come into the global top tier bracket[108]. With an increasing scarcity of places and rising demand for quality education, fees for private schools and universities in the region are likely to continue to rise. This could compel some expatriate families to return home, draining some of the region's most talented individuals[109].

Whilst MOOCs may not be a suitable substitute for schooling or tertiary education, they can certainly complement and help fulfill regional education needs at low cost. For example, many parents in the Middle East (particularly expatriate parents) who push their students to take on further tuition outside school may consider MOOCs as a viable lower cost alternative. MOOCs can also be used by students as a low-cost source of university or career advice, especially in a region which lacks counselling in these areas.

Local schools and universities may also integrate and bundle MOOCs to complement their curriculum and course offerings at a lower marginal cost. This could even help enhance their competitiveness with foreign universities who have setup campuses in countries such as Qatar and the UAE.

The remote learning capability of MOOCs also enables students to access course content easily without investing in relocating or parents sending children abroad to study, for example for summer schools or completing secondary school.

Large gap in education supply and demand. There is a shortage of good quality schools in the Middle East. Enrollment in primary and secondary education across the GCC is already high and near saturation at 90 percent (as it is compulsory for all GCC nationals to attend)[110]. By 2020, demand in terms of the number of students in the GCC is expected to grow from 9.5 million to 11.3 million. Private education enrollment at primary and secondary levels will also increase from 1.3 million to 1.9 million students[111]. As the Middle East is challenged with closing this gap, MOOCs could become a potential home-schooling alternative, which could open up a new market for expatriate students who may otherwise not have access to certain international schools.

Skills half-life is shortening across industries. In the past, a skill learned often created value for a lifetime. In contrast, the hundreds of millions of workers worldwide whose jobs either have been outsourced to a low-cost country or supplanted by new technology or robotics need to learn new skills. And it's not just older workers who need retraining: the pace of technological advancement is such that the programming techniques computer students learn in first year might already be obsolete by the time they graduate, only four years later.

This is especially the case in the Middle East, which is going through a large-scale digital upgrade and development. As a result, the need for skills upgrade in the fields of Information Technology, Digital Services and others has been identified and exposed. Entrepreneurship, creative thinking and innovation technology are also new skills which are increasingly in demand, following the rapid adoption of social media and smartphones[112]. AMOOC providers such as Rwaq from Saudi Arabia and Menaversity from Lebanon have recognized this and are now offering AMOOCs in topics such as social media to address the skills gap[113].

Cash-strapped governments and re-training. Obsolete skills translate into lower productivity and higher and persistent unemployment rates – both issues of great concern for governments at all levels.

Broadly speaking, in the wake of the 2009 global economic crisis, many governments can't afford to re-educate the 20-40 percent of their older workforce that requires it (let alone students who graduated in the last year) in traditional bricks-and-mortar universities, colleges and technical/vocational schools. Governments need a more cost-effective solution for re-training: MOOCs seem likely to be one possible more cost effective solution.

Of grave concern to local governments, especially in the GCC is the massive skills gap that persists through low enrollment rates in tertiary education. At just 23 percent, GCC tertiary enrollment is far lower than many developed countries, which average 75 percent in key Western economies[114]. This is particularly the case amongst male GCC nationals, who naturally after secondary school opt for rewarding opportunities offered by the public sector instead of pursuing tertiary education to enter the private sector. As a result, about 90-95 percent of private sector employees are expatriates in the main GCC economies (KSA, UAE and Qatar), who are educated primarily in the private sector education system and possess tertiary level qualifications. This raises a formidable barrier for GCC nationals who eventually need to up-skill and seek work in the private sector as the local labor pool grows and the public sector work-force becomes more saturated[115].

Although nationalization policies are in place to encourage the private sector to recruit more locals, employers are voicing their legitimate concerns over the skills gap. AMOOCs can be a solution as part of government reforms to equip GCC nationals with the necessary skills to enter the private sector and improve labor mobility. This can open up opportunities for GCC nationals to make the move to the private sector. AMOOCs can also be used to target GCC nationals towards targeted non-oil sectors by equipping them with the relevant skills needed to support non-oil economic diversification strategies.

Advances in online education/pedagogy. Education, both online[116] and in person, is moving away from the "sage on stage" approach[117]. "Flipped learning" is a new approach based on the idea that traditional tertiary education has it backwards. Instead of a professor lecturing to passive students, who then go home and struggle with material unsupported, students view lectures at home, and then come to class to get help on assignments from the professor in person. Recent data suggests that over 80 percent of professors who are using flipped learning believe it improves their students' mastery and retention of information[118].

Flipped learning is possible in traditional schools, but because the technique is based on recorded lectures distributed over the Internet, it is particularly suited to MOOCs.

This could also alleviate the burden on teachers and professors in the Middle East who have to contend with higher student-teacher ratios than found in the United States and Europe[119].

Push vs. Pull. Traditional education is a lot like traditional TV: students show up at scheduled times for lectures and write exams at even more rigorously scheduled times. As younger viewers transition from a world where content is pushed to one where they pull content towards them, we are likely to see students embrace MOOCs that allow them to learn what they want, when they want. Also, younger viewers often don't lock themselves into specific channels, viewing patterns or fixed schedules, but might consume video in small chunks and clips, or perhaps might go on a binge and view everything at once. In the same way, they might acquire education in ways that differ from traditional tertiary education with its clearly defined curriculum and end point. In this new world, completion rates might be less meaningful.

Patterns in Arab digital media consumption illustrate the effectiveness of pull learning in the region. For example, reports suggest that many Arab females in Saudi Arabia avidly consume educational YouTube videos in their thirst for knowledge[120]. For a country with one of the largest YouTube video consumption rates in the world, the pull effect for MOOCs could be a key factor in driving uptake.

Big data/analytics/granularity. As the cost of education rises, it becomes increasingly necessary to measure its effectiveness. At a national level, across millions of students, measurement and analysis of education outcomes tend to be partial, slow and coarse.

Even collating final exam results from hundreds of institutions takes weeks to months. In contrast, analysis of MOOCs can use modern big data tools to run real-time queries – not just of every mark for every assignment and every test for every student – but even looking at text or lectures while students are reading or viewing them, and then examining specific passages that are being replayed, which might indicate they are poorly written or hard to understand. In this way, educators could use real-time data to improve MOOCs on a daily basis[121].

Technology. Robust Internet, pervasive broadband (landline and wireless) powerful connected devices, powerful collaborative software tools, as well as big data tools and analytics will all make the MOOCs of 2020 even more potentially effective and disruptive than in 2014, especially outside the developed world.

For MOOCs to truly be widespread and accessible to Arab society at large, rural areas of the Middle East also need to be connected. With the existing 'digital divide' between urban and rural areas, there is a lot to be done. National information, fixed line and telecommunication infrastructures need to be installed with coverage of vast geographical areas, and poorer students in these areas will need library-like community MOOC learning hubs to access computer devices for internet and MOOC services. GCC governments have started implementing national broadband strategies and should achieve improved connectivity and easier MOOC usage.

Region-specific content. As we have seen with social media and related services, there is a large demand and persistent gap in region-specific content.

Globally, Arabic is the seventh most popular language and the fastest rising on the Internet with exponential growth from 2000-2011[122]. With most Middle Eastern countries ranking in the bottom third in their population's English language capabilities[123], Arabic translation of MOOC content is essential if they are to educate the Arab masses. The first steps have already been taken, with the recent advent of AMOOCs in the region.

Beyond simple Arabic translation, content must not only be in Arabic, but also needs to be modernized to be more fun, interesting and contemporary. At the same time, it should also be contextually relevant and specifically applied to the region. For example, a key topic in demand in the region is social media and youth entrepreneurship[124]. A true AMOOC in this area would include Middle East market specific content such as players, legality, trademarks, challenges, critical success factors and case studies.

Cultural sensitivities need to be considered[125]. Local AMOOC providers such as Menaversity (from Lebanon), Edraak (from Jordan) and Rwaq (from Saudi Arabia) are already working with local Arab experts in their own ways to evolve AMOOC content towards this[126].

As AMOOCs are locally designed and refined, expertise for Arabic knowledge creators will also be developed. This presents an opportunity for original content development. Through a revenue-sharing model, AMOOC content developers can work in partnership with platform providers to accelerate the development of AMOOC offerings.

Bottom line

MOOCs are a fast-growing trend in the educational landscape. In the short term, MOOCs aren't a threat to traditional tertiary education providers, and in fact might never be a threat, even in the long term: MOOCs and traditional education might not be a zero-sum game. People whose primary learning motive is certification or in-person networking might still pay the higher cost of traditional programs. However, providers of MOOCs are branching into new business models. In addition to the revenue from providing fee-based platform services to traditional universities, MOOCs are currently collecting modest fees from certification options, as well as from partnerships with employers to provide targeted learning programs, which might become material in the medium term if the enterprise MOOCs market is the first to take off[127]. The US Department of Education's decision to provide funding based on demonstration of competencies rather than hours spent in the classroom suggests that at least one government is willing to start endorsing non-traditional education approaches in the face of mounting pressure to do something about the looming student debt crisis[128].

MOOCs don't provide the same on-campus experience and social component as bricks and mortar institutions. However, the percentage of students over the age of 25 is increasing faster than the percentage of students under the age 25 as life-long learning becomes a requirement for continued employment[129]. These older learners might be less interested in the campus experience that is so appealing to 18-22 year olds, and might prefer being able to learn on their own time and turf: particularly as the perceived isolation of online learning is mitigated by new social media elements.

MOOCs seem well placed to meet the needs of the next generation of learners, who are increasingly disillusioned with the idea that a degree is necessary for success[130], more comfortable with multi-media content delivery, and increasingly averse to student debt.

While MOOCs might not be a significant presence in the traditional for-profit tertiary education market today, colleges and universities need to take the MOOCs threat seriously and learn how to harness it, much like traditional media and music companies have benefited from embracing digital content.

As MOOCs become larger and better credentialed, they could become a disruptive force, especially because of how cross subsidization works in for-profit tertiary educational institutions today. The current financial model for most high tuition tertiary education is that courses in the first and second year tend to be very large (with thousands of students in a lecture hall listening to a single professor), while third and fourth year classes are very small (less than 50 students). Yet the tuition is the same because the first two years effectively subsidize the cost of the final two years. However, MOOCs seem particularly well suited to replace first and second year classes. If students take those classes through MOOCs, and then transfer into a traditional tertiary school for the final two years, colleges and universities may become almost entirely uneconomical, unless they raise tuition for the later years to reflect their true cost (more or less double the current levels).

One of the key positive aspects of MOOCs is the educational opportunities they provide to those who would otherwise not have access to tertiary education, due to factors such as cost, distance, language, and the need to work. MOOCs can be a game changer in those instances, and in developing nations won't have the same kind of installed base of incumbent educational institutions to compete with for credentialing status. Also, there is an opportunity in those nations for governments to support MOOCs in the same way public universities are supported in many developed countries.

Middle East perspective

The environment and conditions for MOOCs to develop and gain prominence in the region are certainly in place. We are seeing this unfold already with the warm reception that new AMOOC platforms such as Edraak, Rwaq and Menaversity have received.

However, a series of obstacles in the region need to be overcome if they are to become more significantly disruptive in the long-term. Culturally, the MOOC concept is still relatively new. A wide range of Western universities already provide MOOCs whereas local universities are still in debate or at most in discussion phases. There is also the fear that Western universities could use MOOCs to promote their own content and views at the expense of eroding Arabic content and culture. With top Western brands such as MIT, Harvard and Stanford leading MOOC development and offering their own MOOCs, foreign content could be seen as superior, which could make them further dominant and possibly even overshadow AMOOCs.

In terms of employability, switching careers is also not widely accepted by regional employers, so there is still little career pathway flexibility here. Employers prefer students who are qualified through full time, rather than part-time or online courses. Certification and accreditation is also given more importance rather than actual knowledge and learning[131]. Such traditional views limit the practical disruptive impact MOOCs can really have as a preparer and facilitator for labor mobility.

Whilst the low-cost aspect of MOOCs is very appealing, their impact on earnings prospects is arguably even more important. Education is not only an investment of money but also of time. For Arab students, the return on their money and time invested in terms of subsequent earnings could be the key factor that will ultimately decide whether MOOC adoption in the region will be wide scale, or simply more limited at a supplementary and interest level.

For MOOCs to fly, they need to be developed and presented in the right way. They must be supported and recognized by local governments, employers, educational institutions and ultimately by Arab students themselves. Coordination is therefore needed between the ministries of labor, higher education and the private sector (sector boards and chambers of commerce) to actively integrate and utilize MOOCs as an enabler of employment. For example, selected MOOCs could be made mandatory for GCC nationals as part of nationalization programs in agreement with the private sector to address skills gaps. Students in turn could be tested by their prospective employers on the MOOCs they have undertaken, to ensure they have actually acquired the skills needed from their MOOCs, rather than passively going through the motions for compliance purposes. Blended MOOC learning alongside traditional instruction can also enable personalization of the learning experience and free up classroom time. Teachers can shift from mass teaching more towards one-to-one tuition, a style which is more suitable for Arab students, who, unlike their explorative American counterparts, want more interaction and direction to know exactly what to do and how to do it[132].

The need for an accreditation body for MOOCs is also a vital element for its success. Setting up a dedicated accreditation body would provide recognition of the value offered by such courses in addressing structural gaps in skill sets across the workforce. The evolution towards a national credential system, supporting the notion of a "Learning Passport" would enable students across the region to identify occupational competencies and industry competencies in demand and structure their educational choices accordingly. As students move through the workplace, the Learning Passport would serve as a vital reference to document continuing learning efforts of the individual and improve mobility based on industry relevant skills garnered. MOOCs would complement traditional learning courses by helping to address specific skills needed to perform a job in the industry.

So can MOOCs work in the Middle East? The Arab youth have already demonstrated their ability to rapidly adopt new technology. With the right support and recognition, AMOOCs can be the next step in the region's digital, economic and social development.

eVisits: the 21st century housecall

Deloitte predicts that in 2014, there will be 100 million eVisits globally, potentially saving over $5 billion when compared to the cost of in-person doctor visits[133] and representing growth of 400 percent from 2012 levels. eVisit usage will likely be greatest in North America, where there could be up to 75 million eVisits in 2014, representing 25 percent of the addressable market: there are 600 million annual visits to general practitioner offices in the US and Canada, and about half are for problems that could also be solved by an eVisit[134].

In some form or another, there have been alternatives to in person doctor visits for decades. There were new technologies like the telephone in the 1920s, satellite calls in the 1970s for remote communities, or connected kiosks as part of the Minitel network in 1991[135]. All offered the potential for cost savings and mass adoption. But despite 20 years of predictions that eVisits were about to become common, adoption remained low until recently.

In contrast, 2014 should see an inflection point in their adoption, primarily due to changes in technology and telecommunications infrastructure and also due to continued pressure to reduce medical costs and improve care. Pervasive PC deployment, ubiquitous fixed Internet, greater comfort using technology among older patients, who make up the bulk of doctor visits, and the mass adoption of mobile devices combining with available and affordable wireless broadband make eVisits viable in ways that were not possible even four years ago. Advances in analytics offer much greater ability to automate the back office elements of eVisits, and pervasive fiber optic networks to hospitals and clinics facilitate the more data intense applications of eVisits, such as the transmission of brain scan images for tele-stroke applications.

A common misperception of an eVisit is that it is a video conference where the patient sits down in front of a PC, connects with a doctor, and then sticks out a tongue and says "ahhhh" to the web camera. This type of eVisit represents only a small part of the market and offers only minor cost savings compared to an in-person visit[136]. The vast majority of eVisits are likely to be more functional and focus on capturing patient information through forms, questionnaires and photos, rather than through direct interaction with a physician.

In the US in 2010, there were 1.2 billion patient visits to physician offices, emergency departments and hospitals (for outpatient services), equivalent to 3.3 visits per US citizen. Just over half of those visits were to primary care doctors. Prescription refill, coughs, stomach pain, sore throat, earache and skin rash accounted for over 110 million of the office visits: all categories that could be screened or resolved via an eVisit[137].

Middle East Healthcare sector overview

In the Middle East, governments have also recognized the underlying need to develop healthcare in the region. Demand for healthcare services in the Gulf currently outstrips supply which means that the sector relies heavily on sending patients outside the GCC to Europe or North America for treatment. With chronic and lifestyle-related diseases on the rise, a shortage of medical staff and a lack of standardization and regulation requirements in the region, GCC governments are investing in modernizing and reforming their health systems. The introduction of a national eHealth strategy, the use of electronic information and communication technology (ICT) to improve the health outcomes of citizens and deliver improved business processes, is a solution that some GCC countries are considering or are in the process of implementing. However rather than introducing and use of eVisits, digitization and electronic management of patient records appear to be the overarching path the GCC seems to be taking towards its eHealth development. Qatar's Supreme Council of Health (SCH) eHealth initiative to improve delivery of healthcare services through centralized digitization of patient records and telemedicine is an example[138].

Despite the dedicated government expenditure and rapid improvements that have been taking place, eHealth in general is still a very underdeveloped sector in the region's healthcare market, as it is still in an experimental stage. However, with significant demand for healthcare services and implementation of national eHealth initiatives, conditions are in place for the introduction and eventual adoption of eHealth and eVisit solutions. Various organizations in the region have already been exploring eHealth, with advancements also made in related solutions such as mobile health (mHealth) and eConsultations[139].

eVisits are not necessarily positioned in the region to replace in-person doctor visits, instead, they are seen as a way in which to cut down on time physically spent in doctors' offices that do not add any significant value to a patient's overall wellbeing. With the region's prevalent youth demographic, wider internet and mobile penetration levels, today's Arab youth have grown accustomed to conducting much of their lives online[140]. In terms of social behavior, journalism and gaming, we have seen this with their rapid adoption of social networking and blogging technologies such as Facebook, Twitter and YouTube. Similarly, with these developments and the potential adoption of MOOCs (for more information, see the 2014 Prediction: Massive Open Online Courses (MOOCs): not disruptive yet, but the future looks bright), eHealth and eVisit related technologies could also be quickly adopted by the Arab youth[141].

Sizing the number of eVisits

The total addressable market for eVisits in the GCC is about $2-3 billion, calculated as follows. In 2012, residents in Saudi Arabia averaged 4.6 outpatient visits per capita[142]. Assuming healthcare habits in Saudi Arabia and the wider GCC resemble those of the developed world, about half of those would be for primary care physicians, suggesting that roughly two to three visits per year can be reasonably assumed for a Middle East country. The population of the GCC is approximately 47 million people[143], which means the addressable market in the GCC for outpatient visits is approximately 115 million visits annually. If we assume a $60 average cost per doctor visit for the Middle East[144], given that the average cost of a doctor visit varies considerably from country to country, the dollar value of all in-person doctor visits for the GCC is about $7 billion per year. Not all in-person primary physician consults are appropriately handled by eVisit solutions, but even if only 30-40 percent are well suited for eVisits, that still implies a $2-3 billion total addressable market. With the general GCC outpatient market estimated by analysts to grow by over 11 percent[145], the addressable market could increase by as much as $230-310 million this year.

Compared to the addressable market for developed countries, similarly estimated to be about $50-60 billion[146], this may appear to be relatively small. However, considering the population base of the developed world is approximately 1 billion people[147], and that of the GCC is almost 20 times smaller, the GCC's addressable market for eVisits becomes quite significant. This highlights both the demand and the disparity in healthcare costs between the developed world and the GCC, where the average cost of a doctor visit in the GCC is 20 percent more expensive than the developed world[148]. With this in mind and local studies showing telehealth's ability to drastically reduce diagnosis periods[149], eVisits can not only save valuable time of doctors, but can also have greater cost saving impact for hospitals, governments and private healthcare investors in the region.

eVisits are a subset of the telehealth market, which is estimated to be $25 billion by 2015 and which also includes professional-to-professional consultations, remote monitoring, alerts/notifications, and some other smaller markets[150].

The business environment in 2014 is primed for significant growth in the volume and value of eVisits. Global healthcare best practices aim to decrease costs by focusing on prevention and early intervention to decrease the burden of illness, and by continuing to integrate information technology[151].

The same is also the case in the Middle East, where 'prevention is better than cure' is a stance that has been taken on by many in the medical sector in recent years[152]. Continuing integration of information technology is also highly prevalent in the region's healthcare sector, most notably in Saudi Arabia, UAE and Qatar.

Mini case study: Saudi Arabia's eHealth transformation[153]

The recently announced eHealth overhaul of Saudi Arabia's healthcare system will introduce new widespread technological capabilities across all of its hospitals and clinics. Acclaimed as the largest healthcare project in history, Saudi Arabia's Integrated and Comprehensive Health Program (ICHM) will include implementation of Electronic Health Record (EHR), Hospital Information Systems (HIS) and Enterprise Resource Planning (ERP) systems across its healthcare sector. The mammoth scale of the initiative involves connecting more than 3,500 healthcare facilities with about 70,000 beds through 1400 virtual servers under a single integrated and automated patient information sharing network, enabling unified access to various health services under a single portal. Over a ten year development program, Saudi Arabia envisages the largest eHealth network in the world, a strong platform and fertile ground for the development and eventual adoption of eVisits as another viable form of care.

Mini case study: UAE's mHealth drive[154]

The new two-year agreement between the UAE Ministry of Health (MoH) and the country's telecom operators Etisalat and du will see them working in partnership to develop and implement the country's wider mHealth program. This includes a range of new mHealth products and services covering patient health education, remote patient diagnosis, monitoring and control for patients suffering from obesity, diabetes, cancer, cardiovascular and respiratory diseases. Telehealth, medical video conferencing including wellness and lifestyle are also part of the agreement to build the UAEs mHealth ecosystem. The far reaching mHealth program aims to help improve patients' understanding of their condition and enable doctors to remotely monitor their patients and to provide remote medical assistance. In emergency cases where fast response times could make the critical difference between life and death, the national development of mHealth could prove to be revolutionary.

In emergency cases where fast response times could make the critical difference between life and death, the national development of mHealth could prove to be revolutionary.

The integration of ICT in the region's healthcare sector is also featured at a more local level. The Dubai Healthcare Authority's (DHA) recently launched "Smart Healthcare Initiative" in conjunction with Samsung Data Systems (Samsung SDS) and INDEX Holding introduces a suite of new smart eHealth services for both healthcare professionals and patients[155]. Such services include electronic patient filing and monitoring as well as internal medical supply management amongst doctors, hospital departments, sections, laboratories and pharmacies, saving as much as 50 percent of processing time involved. The partnership between a local governmental authority and a major technology firm is another positive sign that local players and multinationals together see potential in the region's eHealth success. The DHA's recent disbursement of over 3,000 android tablets across all its health centers is another step forward taken by the DHA to build 'smart hospitals'[156].

The region's ICT healthcare infrastructure is similarly being driven by the rise of mHealth apps and could potentially be accelerated further with the release and wider adoption of wearable technology such as Google's smart glasses (for more information, see the 2014 Prediction: Wearables: the eyes have it). Even educational institutes such as John Hopkins and Harvard Medical School have reportedly partnered with local telecom companies to offer Arabic mHealth apps in Saudi Arabia and Kuwait, relevant to their local health issues[157].

The ongoing eHealth programs, initiatives and developments across the region will help to drive its growth and adoption of eHealth including sub services such as telehealth and eventually eVisits.

Globally, in terms of growth, North America is likely to lead the predicted global increase in the use of eVisit services. Multiple US services are experiencing significant market growth, offering care that is as clinically effective as in-person visits while reducing costs[158] [159]. Further, US technology providers are already working in partnership with governmental and insurance providers[160]. Canada is also seeing rising use of eVisits at more than 50 percent annual growth[161], with wait times reduced by days for primary care and by 6-8 months for some highly specialized dermatology consultations conducted via eVisits[162].

Outside of North America, eVisit adoption varies widely. The UK and Denmark both provide some services[163]. Penetration in Asia Pacific is limited; however, pilot programs are achieving success in Indonesia[164]. One interesting early adopter is Kenya, where a serious physician shortage and accessibility challenges[165] have created a strong need for an alternative care delivery system. The Mashavu Networked Healthcare Solutions' pilot project has demonstrated that eVisits can be successfully deployed outside the developed world[166].

The success demonstrated in Kenya is a positive indication that similar eVisit models can be applied and adapted to the wider Arab region, given the geographies of both are vast and access to medical care in rural areas is a challenge for their dispersed native populations. As the shortage of nurses, physicians and doctors is also a persistent issue in the Middle East, eVisits are positioned well to service many Arab patients in need of care.

The entry of major international healthcare providers such as Cleveland Clinic in the UAE, which has introduced eVisits in the US, may also help develop eVisit offerings in the region[167]. Mediclinic Middle East's digital review in 2011 showed its mHealth app received 2,000 appointment requests, marking behavior which could represent the first step in patients expanding their mHealth usage for eVisits[168 169]. eVisit technology is also already available to medical professionals and patients in the region, through offerings such as Google's online 'Helpouts' tool, enabling private individuals to offer fee-based, one-to-one services to others remotely online[170 171].

Mini case study: Google's eHealth Helpout

'Helpouts' is a newly launched venture by Google which enables users to seek "real help from real people in real time". The new technology can be used for eHealth and eVisits, namely via remote consultations with doctors on basic illnesses and aliments. To promote its wider use in eHealth, Google has made the service accessible to all, waiving their 20 percent commission rate only to healthcare providers.

While complex diagnoses and treatments are likely to remain face-to-face encounters; basic diagnoses, prescription refills and even specialty services such as dermatology may routinely be done from a conveniently-located kiosk or the comfort and privacy of one's own home.

As eVisits are proven and adopted in the developed world, and as the necessary infrastructure is deployed in the developing world, they are likely to offer affordable primary medical and diagnostic care to very large populations that do not have access today. Although the initial benefit of eVisits may be saving billions of dollars, over time the greater good may come from saving tens of millions of lives.

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Bottom line

Outside the health care field, the most obvious beneficiaries are the technology and telecommunications industries. As the market grows, they will see growing demand for data volumes, quality of service data, high speed broadband and machine-to-machine connectivity, on wireline and wireless networks. Device manufacturers are likely to benefit, and as mHealth (mobile health) accelerates in 2014 and beyond, there are likely to be new growth opportunities for devices, peripherals, and apps. One report that discusses the 66 percent CAGR in data growth between 2012-2017 identifies 'medical applications' as one of the key drivers of this traffic increase[172].

Public and private organizations should continue the push to reform policies that disallow payment to providers offering eVisits. Such payment reform has already begun in areas with mature telemedicine programs. Ontario, Canada recently added a public insurance payment code for physicians to bill for "eConsults"[173] and the Australian and French government health ministries changed funding rules to actively support and promote eVisits[174]. From a private-sector perspective, US payers are showing interest in eVisit programs, particularly with the number of insured Americans increasing exponentially under health reforms. However, at the moment only 18 US states have passed laws that require or will require private payers to reimburse for telemedicine visits[175].

Educational, research-based, and non-governmental organizations have the ability to accelerate eVisit adoption by supporting pilot studies and conducting comprehensive evaluations[176]. North America's organizations dedicated to the advancement of telemedicine – Ontario Telemedicine Network and the American Telemedicine Association – will likely need to play a key role in publicizing eVisit potential using these avenues.

Governments with successful eVisit solutions will be in a position to share their insights about impacts, effective incentive structures and ways to combat legal and technical barriers to adoption. Denmark has offered eVisit services for years and is piloting several new variations, such as tele-psychiatry. These pilots will undergo large-scale testing in an effort to produce proven, established solutions that others can draw on to help justify their own eVisit services[177].

Physicians, hospitals and other healthcare providers should consider which investments they need to make in patient portals, electronic medical records, and security and privacy systems to benefit from all the efficiencies and improvements in patient care that eVisits promise to deliver. Technology providers should likewise model the burgeoning telemedicine ecosystem that eVisits are likely to accelerate, and then determine how and where their companies should participate in a future where patients themselves are part of the healthcare management solution, leveraging sensors, devices and communications systems to monitor treatments and health status.

Regardless of the institution implementing eVisit services, human resource training, familiarization with computer use and telemedicine, and overall organizational readiness are imperative to success. Support from governments and other partners (such as employers, who will benefit from reduced absenteeism for doctor visits) should include recommendations, public education on the benefits of eVisits, policy changes and financial allocations for implementation[178].

One critical step will be to communicate the many benefits of eVisits for physicians. Media coverage tends to focus on the benefits for patients and insurers/payers; however, for eVisits to take root, physicians will need to invest in improving their technology infrastructure and staff up for a potential flood of new online interactions. Although some physicians may view eVisits as impersonal and lacking in human interaction, others will see them as an opportunity to spend more time on more serious and complex cases, while improving quality and efficiency for simpler cases. Also, as long as liability for virtual diagnoses is handled properly, physicians will likely enjoy many other features of eVisits, including: the ability to share clinical data and information virtually with colleagues, the ability to help more patients in less time and across greater distances, and the potential for more flexible work arrangements.

Middle East perspective

Although the potential benefits of eVisits present an attractive proposition to all, their adoption in the region, unlike in North America and Europe, will be more gradual.

The region has been known to be a relatively late adopter of medical equipment and technology compared to its Western counterparts[179] and will also need time to fully develop the technical information infrastructure required for the wider proliferation of eVisits to take hold. This is especially the case with large scale national eHealth programs, where in Saudi Arabia implementation is planned over a ten-year period.

Cultural factors also play a role, with the general concept of eVisits still new to the Arab patient. Healthcare after all is a very private and personal issue, and though eVisits are proven and adopted in the Western world, Arab patients will need more time to develop their trust in it.

Lack of local regulation in eHealth, including data protection and cyber security are also key issues which need to be addressed at the governmental and ministerial level. Frameworks for the security of information systems, confidentiality of patient data, technical data security programs and legal safeguards to protect information being shared and accessed must be developed and put in place[180]. If not addressed adequately, patients may never gain confidence in eHealth and therefore eVisit solutions as a fair and proper alternative to in-person doctor visits, limiting their potential uptake. Health ministries in the region should work with their Western counterparts such as those in Canada and Denmark, in which the market for eHealth and eVisits is more advanced and mature[181] [182].

Local expertise is also lacking in the areas of healthcare, ICT, project management and business, and with the transient turnover of expats, talent is often temporary. The right talent and experience needs to be brought into the region to oversee and implement new eHealth initiatives, but investment in the national population's relevant skills to enable them to use the upgraded eHealth systems should not be left behind.

In the meantime, mHealth will emerge as a more disruptive force in the healthcare system over the next few years, in terms of enhanced patient record keeping and monitoring rather than for eVisits.

As eVisits emerge as a new phenomenon around the world, the Middle East will be watching, as Arab patients may also one day seek treatment from the comfort of their homes.

SME adoption of ICT services: catching up but still a long road ahead…

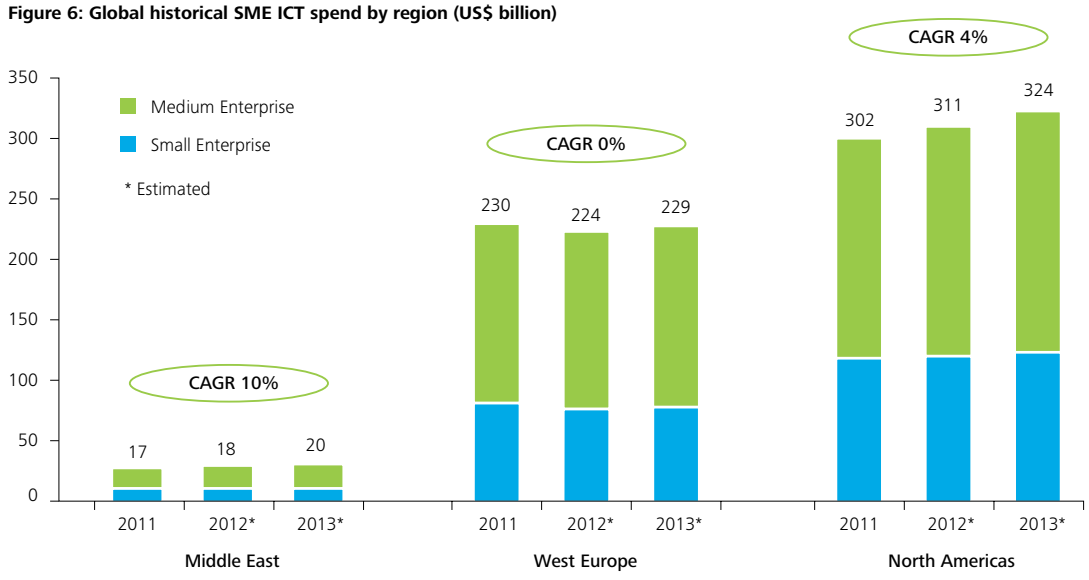
Deloitte predicts that in 2014, small-to-medium sized enterprises (SMEs) in the Middle East will increase their expenditure on ICT services by over $2 billion to $22 billion, 10 percent over 2013[183]. In 2014, the SME share of ICT spending in the region will be just over 23 percent[184], driven by ongoing expansion in the number of SMEs and their needs for key ICT services, such as web-presence, e-commerce and cloud computing.

Although there is no clear-cut definition of an SME, headcount is the region's most commonly used measure of quantification. We have therefore defined an SME as an enterprise which employs 100 people or less[185]. Under this definition, there are over 1 million SMEs across the GCC, with Saudi Arabia and the UAE containing the highest number at 68 percent and 23 percent respectively[186]. As an ICT customer segment, SMEs in the region have also grown quite considerably. For example in the UAE, thousands of SMEs are being added annually[187].

In the 21st century, the proliferation of internet connectivity, e-commerce and cloud services has reduced barriers to entry for SMEs and enabled them to develop across all economic sectors, all over the world, in ways which were never even possible years ago. At least in the Western world, this has evolved into a huge SME market for ICT services, with spending in Western Europe and North America in their hundreds of billions[188]. By contrast, the SME market for ICT services in the Middle East in terms of spending is massively underdeveloped, as SME ICT spending in the region is ten times less than the Western world. This reflects the stark difference in maturity between the regions in their SME development and adoption of ICT services.

With an estimated average annual ICT spend of around $20,000 per SME, SMEs in the Middle East have not been using or spending anywhere near the real amount on ICT services that they could. This is underlined in key GCC markets such as Qatar, where a recent survey in 2012 revealed that 83 percent of Qatari SMEs spent less than 10 percent of their budget on ICT services, the majority of which spent even less than 5 percent[189].

Figure 6: Global historical SME ICT spend by region (US$ billion)



Source: Deloitte research & analysis[190]

However, the digital economy of the Middle East, although still nascent, is now expanding at a faster pace than other developed markets, offering existing, new and potential SMEs in the region a better platform for development. A number of economic and SME sector indicators below suggest that SMEs across the region represent significant growth opportunities in general and in their ICT needs, especially if provided with the right support.

In **Saudi Arabia**, SME investment is forecast to grow to over $70 billion by the end of 2015, expanding its share of GDP by two percent[191]. With the Kingdom representing the vast majority of SME's and ICT spend in general, we expect this to be one of the leading growth factors in regional SME ICT spend.

In **Qatar**, the SME ICT market is forecasted to grow annually by as much as 10 percent per annum over the next three years to almost $6 billion by the end of 2014, over double the annual growth rate seen over the past three years in North America[192]. A range of surveys also indicates that 85 percent of SMEs have strong expansion plans[193] with another showing over 50 percent forecasting an increase in their capital investment[194]. A third survey indicates that a significant 62 percent of Qatari SMEs plan to increase their expenditure specifically on ICT services[195].

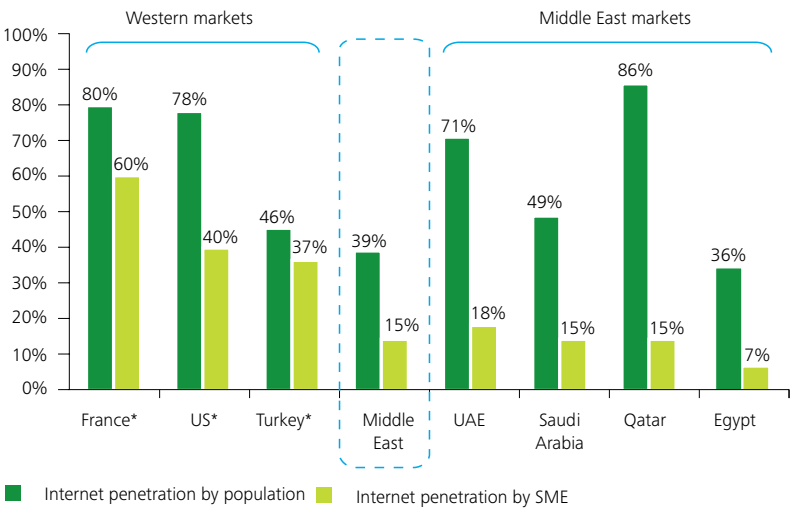
In the **UAE**, SMEs have also grown substantially in size and are now reportedly looking to continue expansion beyond its borders[196]. In the last 12 months, as much as 26 percent of UAE SMEs expanded their operations overseas. This is impressive when compared to established exporting nations such as Switzerland (15 percent), Germany (8 percent) and Brazil (8 percent)[197]. Recent developments, such as the upcoming Dubai World Expo 2020, are also expected to further boost the UAE SME sector with as much as $40 billion expected to be pumped into the overall economy[198]. In particular there has also been a rise in demand for technology SMEs, capable of providing ICT services themselves from many family businesses seeking lower cost ICT solutions[199].

Across **the region**, family businesses themselves are also driving SME growth as well, as their younger entrepreneurial generation establish, own and run SMEs. With 75 percent of private sector activity controlled by family businesses (unlike other economies), they are very powerful and influential in the region, representing another key growth driver for SMEs and their ICT adoption[200].

While the environmental factors for overall SME ICT growth are in place, in terms of maturity, most SMEs are not as advanced as they are in the Western world, requiring more basic ICT capabilities. The massive need from SMEs in the region for these basic ICT services, where we are likely to see the most spending, is broken down into three areas.

Web presence. Although the Middle East enjoys a high level of internet and social media penetration, SMEs, compared to larger businesses and their consumers, are lagging behind in terms of their online web presence. This is shown in internet studies, which revealed that only 15-25 percent of SMEs in the Middle East have any online presence at all[201 202]. The same is the case with social media. For example in Qatar surveys show over 55 percent of SMEs have no presence on social media and 69 percent do not make use of social media advertising[203]. This is a huge gap especially as Qatar has one of the highest internet penetration rates in the world and the highest in the Middle East[204]. The internet has a big impact on any economy and an even greater impact on the SMEs that use it. This can be seen in Saudi Arabia, the region's largest economy, where the internet contributed over $9.8 billion to its economy, equivalent to 2.2 percent of its GDP[205]. For SMEs in the region to develop and grow, it is imperative for them to establish a web presence if they are to develop, grow and benefit from more advanced ICT services. With the large penetration gap that prevails, we would expect faster growth in SME ICT spend to start here.

Figure 7: Online presence by population and by SME (2012)



* Overall business online presence

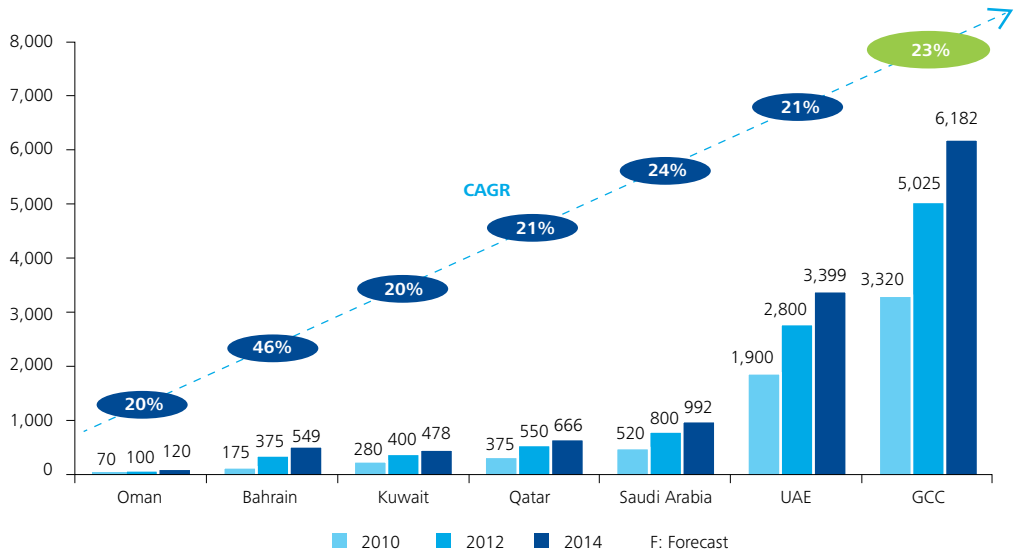
Source: Google[206 207], Internet World Stats[208], Deloitte research & analysis[209]

E-commerce. Overall there is great potential in the region for e-commerce to grow. E-commerce in the region is relatively nascent as the Middle East is still a cash-based society, especially in the GCC where business-to-consumer (B2C) sales represent only two percent of overall retail sales volumes[210]. With such a gap, there is plenty of room for e-commerce to expand. Already, consumers are rapidly migrating from cash to online payments. From 2011 to 2012, growth in online sales in the GCC alone was greater than the 20 percent world average, with MENA at 45 percent becoming one of the fastest growing regions for online sales in the world[211]. This e-commerce shift is being led by consumers in the UAE, where 71 percent of all purchases made in the country are researched online first, a result of the country's high internet penetration rate, which is now translating into a wider shift in commercial behavior and deeper economic benefit[212].

However, in spite of the impressive growth in e-commerce, SMEs have not utilized it as another consumer sales channel, as they face several challenges in setting up their own e-commerce platform. This is the case in Saudi Arabia, where most SMEs are still at the stage where establishing a website or adopting e-commerce is the main issue[213]. In countries such as Qatar, SMEs are also reluctant to adopt e-commerce as they do not trust it as a viable platform. Lack of transaction security, poor delivery services and lack of affordable and reliable payment platforms were all cited in a recent SME survey as reasons inhibiting e-commerce adoption[214].

However, regulations are being designed to offset this and encourage online payments, especially with new e-government initiatives aimed at fostering an online payment culture in the region. Good examples can be found in Saudi Arabia, the UAE, Lebanon and Jordan, where more than a fifth of banks now offer online services, from simple banking facilities to payment schemes[215]. With 66 percent of new customers finding small businesses via online search engines and 60 percent of consumers more likely to engage with an advertisement relevant to their location[216], there is ample opportunity for SMEs to benefit from adopting e-commerce for consumers around them. E-commerce is another basic need for SMEs, but requires a web-presence to be established first. For this reason we would expect e-commerce platforms and services to be the next focus of SME ICT expenditure following web-presence adoption.

Figure 8: GCC B2C e-commerce sales volume (2010-2014, US$ millions)



Source: Deloitte research & analysis, 2014[217]

Cloud computing. Cloud services have had limited adoption by SMEs even though most are aware of it as a concept. This is certainly the case in Qatar, where only 1 percent of SME's surveyed in 2012 were using cloud services[218]. However, early indicators now show that cloud service adoption is quick on the rise. In the same survey, another 42 percent of Qatari SMEs were planning to use cloud services within one to three years, 67 percent of which were interested in infrastructure-as-a-service (IaaS), followed by software-as-a-service (SaaS) and platform-as-a-service (PaaS). As IaaS helps SMEs to reduce their capital expenditure burden, it is expected to be adopted by SMEs the most.

Apart from cost savings, security and data storage services are also on top of the SME agenda. The Middle East is the most popular region in the world for cyber-attacks, with a recent report from Symantec highlighting a growing trend in attacks on SMEs. Last year alone, Symantec cited a 42 percent increase in targeted attacks on the region's enterprises, 31 percent of which were aimed at SMEs[219]. Increasingly, SMEs are responding by turning more towards secure cloud storage services and disaster recovery solutions[220]. In 2012, an SME cloud adoption survey by Symantec found that 50 percent of the organizations are more likely to adopt cloud services if it would guarantee 24/7 protection of business critical information, with time saving another strong attraction factor[221]. The impending need for cloud services by SMEs in the region is also recognized amongst the biggest international players, with software giant Microsoft announcing their commitment to empower some 10,000 Qatari SMEs with cloud technology[222].

The benefit of ICT adoption by SMEs

In every economy of the world, SMEs are the key engines and drivers behind sustained economic growth and development. The Middle East is no exception, especially as it needs SMEs to help create millions of jobs to keep up with its fast growing population[223].

However, despite the fact that SMEs represent over 90 percent of GCC businesses, they do not contribute as much in employment (only 43 percent in 2011) and GDP (only 36 percent in 2011) as they potentially could[224]. The mismatch is explained by the relatively limited support SMEs have received in the GCC, compared to larger enterprises, which grew proportionally more in counties such as Qatar between 2008 and 2010[225]. Another reason is because SMEs in the GCC are generally still low tech and concentrated in relatively low value add sectors such as trade (47 percent in 2010) and construction (27 percent in 2010), creating a large productivity gap[226].

The embracement of ICT services by SMEs is a key enabler and solution, which can help them and the wider Middle East region to accelerate in their economic development. By harnessing the power of ICT services, tech savvy SMEs have created more jobs and more revenue gains compared to their non-tech savvy counterparts. The adoption of cloud services is a good example of this, which can help increase cost savings substantially for SMEs[227]. ICT adoption can also help SMEs tackle rising competition and help them to reach a critical size, which by far are the main challenges faced by SMEs in the region. In helping SMEs to better reach out to their customers and better understand market conditions, ICT usage can even constitute a major competitive advantage.

Middle East perspective

Though the future holds great promise and potential, it is also fraught with key challenges, which need to be overcome if ICT adoption is to take hold in the region's SME sector.

Access to finance remains a key challenge for SMEs in the region. This is clearly reflected in SME lending activity, which in 2013 was just 8 percent[228]. However, in light of the current global economic recovery, SMEs in the Middle East are also expected to benefit the fastest with foreign direct investment flowing into the region, encouraging SME expansion and spend[229]. Governments should also work with SMEs and key ICT players to promote and financially incentivize ICT adoption to encourage development and spending. The Tamkeen program in Bahrain is a good example, where SMEs are eligible to obtain funding from Tamkeen for utilizing Batelco's ICT products and services[230].

SME awareness and trust in ICT is also another issue that has inhibited mass adoption to date. Arab SMEs have traditionally avoided ICT adoption despite the anticipated benefits. Due to security concerns and linguistic barriers, many SMEs still rely on personal interactions and have still not moved their operations online[231]. Both governments and ICT players therefore need to be very proactive in educating SME owners about ICT and its far reaching benefits.

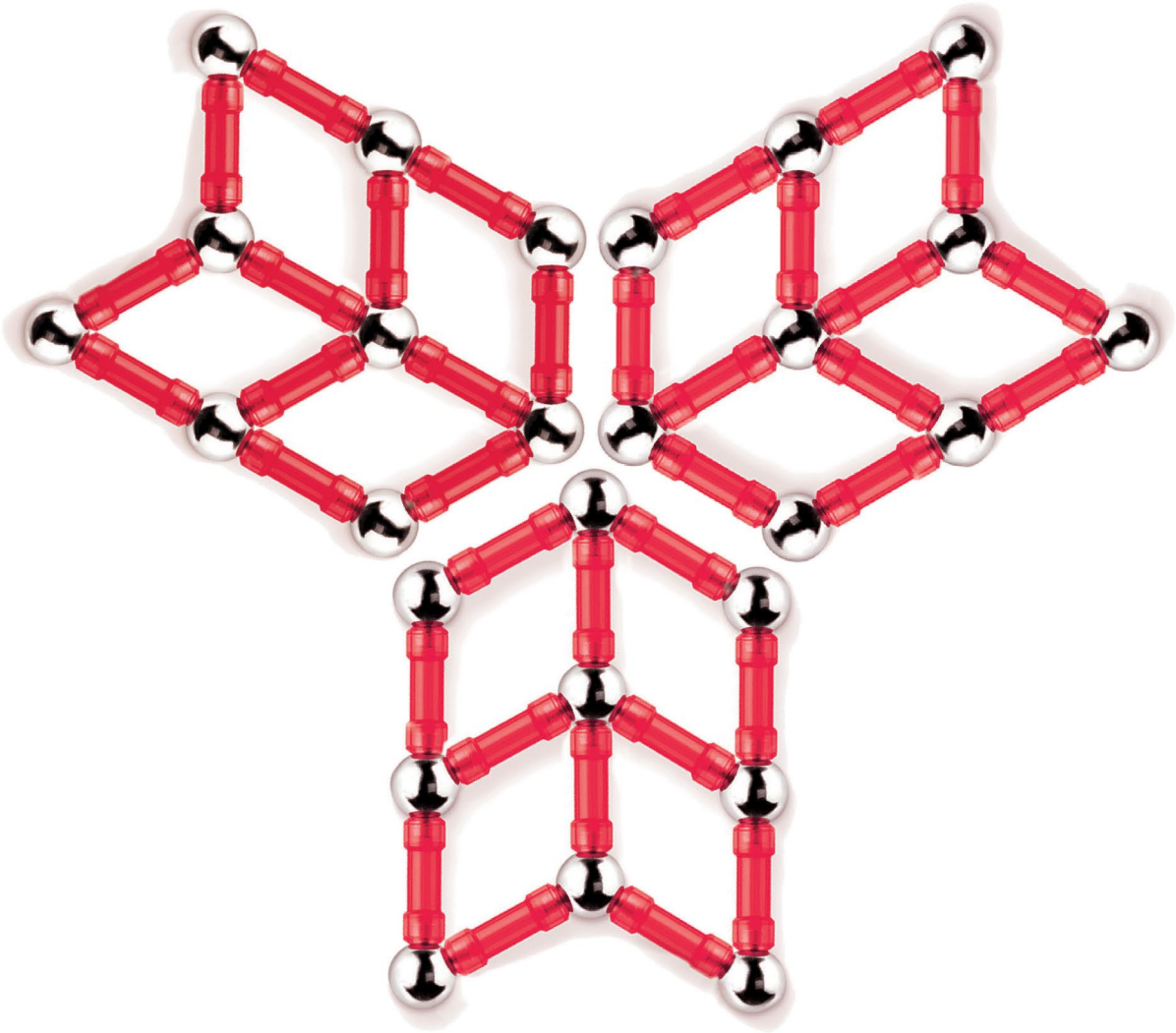
SMEs need to develop their capabilities in terms of resources and more sophisticated business practices as well. Currently SMEs in the region have limited access to talent and expertise, especially for executive positions which places undue load and reliance on the owners experience, time and skills. Regional business networks also need to be developed to enable SMEs to expand, as they have limited internal and external resources to do so. The availability of business planning tools, which can make a huge impact to the success or failure of SMEs, is also lacking in the region.

To strengthen their ICT sectors and foster innovation, governments in the Arab region in partnership with key ICT players need to engage SMEs together to identify key focus areas for development, establish SME-friendly policies and regulations, make funding more widely available, improve ICT infrastructure, and develop the local ICT talent pool[232].

Encouraging initiatives across the region are in place, for example in Google's "Getting Saudi Businesses Online" initiative. As a SME tailored program for the GCC, the initiative aims to develop free websites for SMEs as well as offering one-on-one mentoring in how to turn online presence into profit. Launched in Saudi Arabia in 2012, the initiative is expected to be rolled out across the rest of the MENA region as well[233]. Telecoms operator du has also recently partnered with Google aiming to make business communications more effective for SMEs. Through a one stop shop approach, du is reportedly targeting to capture 50 percent of the SMEs ICT market by 2016[234]. A number of SME incubation programs are also in place including In5 (part of Dubai Internet City), Silicon Oasis, Seedstartup, TwoFour54 Ibtikar (focused on digital and media SMEs), i360 & Turn Accelerators (supporting SMEs in logistics and supply chain) and newly opened Afkar.me (for SMEs focused on digital product and content), which all provide some form of funding, access to office space as well as to experts. Government players such as ictQATAR are also very active in supporting SME ICT development, through their SME ICT Toolkit offering. International players such as SAP have also broadened their product offerings to SMEs in the region[235], with Microsoft offering ICT support to SMEs in Qatar.

Governments, ICT players and SMEs across the Arab region should continue to build on and learn from the initiatives above. Economic and well-planned deployment of ICT is critical to the success of SMEs[236].

Media



Doubling up on pay-TV

Deloitte predicts that by the end of 2014 up to 50 million homes around the world will have two or more separate pay-television subscriptions, with the additional subscriptions generating about $5 billion in revenues[237]. A further 10 million homes will receive premium programming as part of their subscription to another service, such as broadband[238]. Over the coming years, the number of households with multiple subscriptions should continue rising, as more content owners and aggregators, including platform owners such as cable and satellite providers, make their content portfolios available via subscription video-on-demand (SVOD) delivered 'over-the-top' using broadband connections. A further stimulus to the market will be the increasing availability of inexpensive HDMI dongles, which connect TV sets to the web.

Most of these 50 million households will have just two pay-TV providers, typically one platform-based (satellite, cable or IPTV) service and a secondary SVOD service, but about five million may have three or more providers[239]. By the end of 2015, twenty percent of homes in selected markets will have three or more pay-TV subscriptions, as more rights owners make their content available via video-on-demand (VOD), as broadband speeds increase[240], and as premium programing is increasingly used as a customer retention tool[241].

This trend is counter to historical expectations of 'cord cutting', whereby households would either drop their pay-television subscription altogether, or replace their platform-based subscription with a SVOD package[242]. Cord cutting has been anticipated for the past decade: in surveys, a significant proportion of pay-TV subscribers have signaled their intent to cease subscribing, yet year after year these intentions have failed to materialize, and the base of pay-TV subscribers has remained constant or even continued to rise in many countries, even in markets with a high pay-TV base such as North America, where over 90 percent of homes have pay television[243]. Overall, platform-based pay-TV has continued to grow in size, with 895 million homes paying $245 billion in 2013, and revenues expected to reach $287 billion in 2017[244]. Although SVOD services have been growing, it appears that customers are continuing to subscribe to platform-based pay television, and adding SVOD to make a 'content stack'.

In markets where there are multiple platform-based providers of pay-TV, some of the players – be they satellite, cable or IPTV-based – are beginning to offer elements of their program portfolio on a SVOD basis to customers of other platform providers[245]. A cable TV customer may want both the high broadband speeds available via digital cable and also some of the content only available from a satellite provider; this customer could access the provider's content via an additional SVOD subscription, rather than purchasing a more expensive platform-based subscription.

The pay-TV story in the Middle East

The market for pay-TV in the Middle East is quite small. Household penetration of pay-TV is estimated to be only 6 percent in 2013[246]. However, in recent years, the region's pay-TV subscriber base has gathered pace. Pay-TV subscribers in the region are estimated to have reached over 3 million in 2013, with some analysts expecting it to reach as much as 6 million by the end of 2018. This represents healthy double digit growth over the past year and in quite a few years to come[247][248]. One of the largest pay-TV providers in the region, Qatari based beIN Sports recently claimed an impressive 26 percent growth in its subscriber base in 2013 over 2012[249]. The growth reflects the developing appetite for pay-TV in the region.

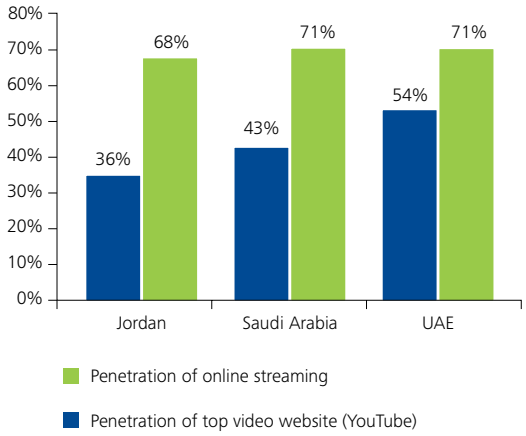
The Middle East SVOD space

SVOD as a proposition in the Middle East is reasonable and could gain traction. Viewers in the region are likely to find many aspects of SVOD appealing. The most important of which is the quality of content offered and its price. The fact that SVOD offers exclusive content that is not available on TV, such as classics or archived content (no longer screened on TV), is a key selling point. With prices comparable to cinema tickets, SVOD services are also affordable for many viewers. Through connected devices such smart TVs, smartphones, tablets and PCs, SVOD services offer a major convenience factor as well, enabling content to be accessible from anywhere at anytime.

VOD and SVOD has been in the Middle East market place for some time, with MBC's Shahid.net originally establishing itself in 2007 and re-launched in mid 2011 as the first VOD service[250]. A number of region specific proxy indicators suggest that there is market potential for SVOD, with the sizeable penetration levels of online streaming and YouTube in the region.

The fact that viewers in the region have adopted online video in addition to conventional television shows a market potential for SVOD as a secondary viewing service. Surveys of the region's Generation Z's (aged 16-24) have also indicated their willingness to pay a premium to receive shows on demand[251]. The success of Shahid.net in Saudi Arabia, where the majority of their subscribers are based, and who are reportedly considering SVOD, is a good example of this[252 253].

Figure 9: Online video penetration indicators (2012-2013)



Source: Deloitte research & analysis[254]

So far, SVOD has seen the most success in the more connected Gulf States, namely the UAE and Saudi Arabia. The UAE with the highest pay-TV penetration is the relatively more mature market in the region. Saudi Arabia is the largest market, firstly due to their large population base and secondly due to the lack of conventional entertainment facilities such as Cinema that are available in neighboring countries. Although there is sizeable market potential, the SVOD market size is still small and in its infancy.

However, new players are emerging across the Arab world, seeking to tap into the region's SVOD market. Following Shahid.net's success in their initial VOD offering, new SVOD players such as TE Live have emerged in Egypt. Telecoms operators have had SVOD services for some time such as STC (Shashti) in Saudi Arabia, du (On Demand Club) and Etisalat (eLife video packs) in the UAE and Ooredoo in Qatar are also offering SVOD services[255].

In the UAE icflix, an online SVOD service offering Hollywood, Jazzwood and Bollywood content, is one of the most recent market entries in 2013. Maroc Telecom in Morocco, is the latest SVOD entry, having just launched the country's first SVOD service at the end of 2013[256]. Even Shahid.net in 2014 are reportedly considering the SVOD business model, given the popularity of its VOD platform[257]. Players from Western markets such as Wherever TV are also offering SVOD services catering towards Arab viewers. US SVOD giants Netflix have also expressed an interest to expand into the Middle East[258].

The fact that viewers in the region have adopted online video in addition to conventional television shows a market potential for SVOD as a secondary viewing service.

The case for SVOD

It might seem extravagant for a household to double up on pay-television providers. However it reflects a longer-term trend to add to existing packages: rather than sourcing additional packages from other platform providers, thanks to high-speed broadband services customers are now able to source from other content services, often at a price equivalent to adding a minor bundle, typically for less than $10. So while households may have two providers of video content, the second subscription is at a far lower cost.

This is especially the case in the Middle East, where viewers in general are highly price sensitive. SVOD providers in the region have factored this into their pricing. Although this varies slightly between countries, in general, SVOD packages in the region are priced in the range of $6-12 dollars per month, around $8 on average[259]. This is line with western SVOD providers Netflix and Hulu, who charge $8 for subscriptions to their monthly SVOD offerings[260]. The fact that local telecoms providers have also added SVOD services in addition to their normal TV packages also indicates that providers are responding to a rising regional demand in additional services. For example STC in Saudi Arabia now offers three SVOD packages covering movies, TV series and Kids for $6-7 per month. Compared to their TV add on packages which are $13-15 per month, viewers will naturally prefer to pick and choose their additional content with SVOD at the lower price point[261].

Whilst lower cost SVOD packages are more attractive for consumers seeking additional subscriptions, competition from Free-to-Air (FTA) channels in the region also presents a key challenge to the wider adoption of SVOD and pay-TV in general. With 658 FTA channels and an additional 58 under test transmission as of May 2013[262], viewers in the region have an abundance of choice. Pay-TV and SVOD not only need to offer differentiated content, but also high quality channels in High Definition (HD) and 3D especially for exclusive premium content such as sports. FTA channels have started offering HD, but may not guarantee the quality of service that pay-TV or SVOD could provide. Viewer demand for quality has fuelled rising pay-TV subscriptions in UAE and Saudi Arabia, two countries which also host the highest number of FTA channels[263].

It may well also be the case that a member of the household other than the platform-based pay-TV (billpayer) signs up for a SVOD subscription – perhaps without that person's knowledge. If so, no individual member of a household may be aware of the full range of pay-TV services being subscribed to by everyone in the home.

This is likely to be the case in the Middle East, where households typically tend to be larger than in other parts of the world. Whilst more senior members of a Middle Eastern household are likely to be satisfied with their existing TV package, younger members of the household, who are more active online in the Middle East, are likely to also buy into SVOD services to access video content that is tailored to their choice.

Another medium-term development which lessens the financial impact of a second subscription is that households adding SVOD while maintaining existing pay-TV are substituting spend that would have gone on DVD rental and purchase. Indeed in some markets, the decline in DVD box set revenues matches closely the emerging, rising spend on SVOD[264].

At the same time, the decline in DVD rentals and purchases in the region is also largely attributed to piracy, another prevalent issue in the Middle East and one which also extends to pay-TV. The scale of the problem is highlighted by a number of analysts, who estimated that piracy cost the Arab pay-TV industry as much as $500 million each year in lost revenues[265]. Although piracy also causes lower adoption in pay-TV and SVOD in the Middle East, pay-TV operators have taken a number of steps to combat this. Recently developments include Abu Dhabi Media investing in anti-piracy hardware and software, with similar investments by OSN in anti-piracy technology[266], and beIN Sports latest 'GO Secure' anti-piracy campaign requiring viewers to register their smart cards and receivers with beIN Sports to view channels that have undergone new encryption upgrades[267].

Demand for SVOD is likely to be further increased by the growing availability – with 20 to 30 million units expected to ship in 2014 – of Wi-Fi-enabled streaming dongles that provide access to SVOD services via the HDMI port. TV programs tend to be most appreciated when watched on a TV set rather than on the smaller screens of PCs, tablets or smartphones. However, SVOD on a TV screen requires a connected TV set (still a minority of the installed base of televisions) or a connected device (games console, PC, tablet or smartphone) which acts as a conduit for streamed programming. The Wi-Fi dongles make non-connected TV sets connected, or can free up devices that would otherwise be used as the Internet streaming adapter for a non-connected TV. By the end of 2014, we would expect about twenty content owners to offer access to their content via branded streaming dongles[268].

SVOD providers have also been quick to take advantage of the proliferation of smart TVs in the region, with partnership agreements already being signed with the big smart TV manufacturers. icflix's recently announced partnership with Samsung and LG allows viewers to download the icflix app onto their smart TV to directly access SVOD content[269].

We expect subscribers to start accumulating SVOD suppliers because there may be no single company that can offer all the content that all members of a household want. Each SVOD supplier that acquires content, either through original commissions or exclusive distribution deals, is likely to choose content that is most attractive to its customer base.

Regional providers have their own content offerings. For example, Shahid.net, although a currently VOD provider, primarily offers MBC content for Arab viewers, whereas SVOD provider icflix offerings include Bollywood for Asian sub-continent expat viewers[270]. Although the range of content available through different providers will encourage SVOD package accumulation, in the region, we expect this to be limited by the price sensitivity of the consumer. Rather than accumulating a suite of three or four different SVOD packages, the average pay-TV viewer is likely to limit themselves to the one additional SVOD offering on top of their existing pay-TV package.

We would expect a broader range of companies to commission content in the future – not just broadcasters or platform owners, but also technology companies and retailers, or any entity hoping to differentiate its offering through exclusive content; and the cost of exclusive content is so high that no individual provider will satisfy the needs of every household.

The broader commissioning of exclusive content in the region will be driven by existing content gaps, the most significant of which is in the range of Arabic content available. Shahid.net's success not just at home but also with large number of their Arab subscribers abroad emphasizes this. Another significant gap is in premier blockbuster subscription services, similar to those offered by Netflix. There is likely to be fragmentation here, with different SVOD providers specializing in providing various aspects of blockbuster content, depending on the content rights they can afford and secure. There is also opportunity to create media content including localization or dubbing as well as newer emerging formats such as transmedia, which appeals to dedicated fans.

Bottom line

With the Internet and pervasive broadband, content creation and ownership is now spreading among more and more companies. The rise in the number of entities commissioning content means there will be increasing competition for on-screen talent, writers, producers, and even set designers[271].

Some part of the growing spend on subscription video-on-demand is substituting for money that would have gone on purchasing DVD box sets. Content providers will need to forecast a changing revenue mix carefully, so as to avoid either under-investing in content, or spending over budget.

Content producers should consider how ever-improving broadband speeds open up new markets for them; they may no longer have to deal directly with platform owners to reach end-users. Content owners should however be cognizant of the implications of selling direct to the end-user, such as the need to provision local network storage and payment options. Further, cutting out a distributor may increase margin, but at the cost of addressable market.

Platform owners should tap into the growing demand for additional pay-TV subscriptions to increase their addressable market, by offering their content over-the-top to those who do not subscribe to their platform service. On-demand subscribers are likely to pay smaller monthly sums than subscribers paying for the platform package; it will be important to balance pricing such that both sets of customers feel they are getting value for money and OTT solutions do not cannibalize the platform base.

The quality of OTT VOD services will be contingent on the quality of broadband for each subscriber. The SVOD provider may have little control over this, aside from allowing the customer to vary the bit rate according to available bandwidth, and advising consumers on how to optimize broadband speeds[272]. Monthly data allowances, where these exist, constrain the number of hours that can be watched for heavier-viewing households.

There is upside for broadband providers, some of which may also be the platform owners. The more VOD watched, especially at higher resolutions, the greater the demand for broadband. Households with a high propensity to use SVOD may well upgrade to higher-speed packages, or may pay more to have higher monthly download allowances. Indeed a major reason for the growth in fiber to the home/cabinet (FTTH/FTTC) connections is likely to be because households want to be able to consume one or more SVOD service at the best available quality.

Broadband providers tapping into the growing demand for SVOD should be aware of viewing patterns, which are likely to resemble those for broadcast television, and build to meet capacity peaks cost-effectively. SVOD companies may need to deploy local caches of video content. Demand for video content may vary by neighborhood, and carriers should use analytics to understanding localized viewing trends, and provision for edge of network storage accordingly.

Cable, IPTV and FTTC broadband services are rivalrous: the more people watching video within an area affects the quality of service for others in the same locality, and video already represents the bulk of capacity usage in many markets. For example, video streaming represents over half of all downstream capacity in North America[273]. Therefore platform-based TV services may always have an advantage when it comes to delivering consistent quality of service to the majority of homes. Although many of the additional pay-TV subscriptions will be delivered via broadband, the need for platform-based service is likely to remain.

Middle East perspective

The markets for both platform pay-TV and SVOD services in the region are evolving together in tandem. This is unlike other regions, where TV developed in a rather linear fashion: platform pay-TV came and penetrated first, followed by the introduction of OTT, IPTV platforms, then VOD and SVOD services as new innovations. In terms of penetration, both pay-TV and SVOD services are in their infancy, and both hold growth potential.

With many SVOD providers in the Middle East, there is no clear winner as yet. However, in due course, we expect more players to enter the region's SVOD space. There are opportunities for broadcasters and telecom operators to partner with each other to offer a compelling proposition. While operators can manage the quality of the customer experience and provide an extensive distribution footprint, broadcasters can leverage access to their vast library of content.

Local SVOD providers need to strengthen the appeal of their offerings by expanding their repertoire of exclusive content if they are to attract a wider subscriber base. Partnerships with content developers to address content gaps and to build online exclusive content could be a competitive advantage. International SVOD players namely Netflix and Hulu with existing expertise and experience could enter the region quickly with market offerings that could dominate the market. Local SVOD players should be wary of this and use their presence in the market to offer the best content and cement their positions in the Middle East before international players enter.

Television measurement: for better and worse

Deloitte predicts that in 2014 the measurement of domestic television program viewing should become more accurate in a number of countries, including Germany and the UK, because of the introduction of hybrid measurement[274]. This new methodology integrates TV viewing on PCs, tablets and smartphones into overall viewing numbers, and also includes other data sets, such as set-top box channel selections and video-on-demand (VOD) server logs[275]. Without hybrid methodologies, TV consumption will be under-counted, particularly for the younger age groups that are more likely to watch on devices other than TV sets and more likely to use VOD, with an adverse impact on advertising and subscription revenues[276].

However, while measurement of the domestic schedule should become more accurate, more people are likely to view TV schedules of other countries via over-the-top (OTT) services, leading to significant under-counting of TV consumption by some foreign-born individuals[277].

Accurate measurement is fundamental to the largest ad product in the world: TV advertising, worth $200 billion per annum globally, which is priced by ratings. Measurement has been critical to the continued TV ad spend against a background of increasing hours spent online and declining spend on other traditional media. Further, share of viewing audience is a key performance indicator for any license-fee funded channel. Audience size still matters for pay TV operators, for advertisers, and for on-screen talent looking to understand the potential exposure that a television appearance would offer. Subscription VOD (SVOD) providers wanting to show advertisements are also likely to offer their usage data for including on core TV viewing data.

In most of the largest TV markets, television viewing volume is monitored via viewer panels. When panel members start watching, they press a button, and a device in the home notes which program is being watched at that time, and who is watching it. Viewing data from each household is uploaded and analyzed, and typically published the day after. These panels are considered highly accurate at measuring live and catch-up viewing on TV sets[278].

But monitoring has not kept pace with some of the recent changes in viewing behaviors and devices. For example, TV viewing is no longer restricted to television sets. In recent years, about one percent of viewing has been via on-demand services, typically with laptops, tablets, and smartphones, but also connected TVs[279]. Growth in on-demand viewing is about 25 percent year on year.

The steady growth in the number of channels has also led to a shift in viewing patterns. While the majority of viewing in most countries – even if hundreds of channels are available – is of a few programs on a few channels shown during prime time, there is growing viewing of programming with a small but significant audience share. This includes premium and specialist sports (such as darts and snooker), high-end drama and regional programming. For these programs, a 10 percent increase in viewers may not be accurately measured.

Measurement of viewing on other connected devices will be enabled by software placed on devices owned by panel members. There are various ways of recognizing programs being watched, such as using voice recognition to map dialog to a specific program, and identifying metadata tags embedded in program content by broadcasters[280].

We estimate that viewing on non-TV devices in developed markets with 75 percent or higher broadband penetration represents about one to two percent of all viewing. But among younger viewers, the proportion is typically higher, at up to five percent, and crucially this is the age group that watches traditional television least. Under-counting this group would affect the perception of television's relevance and impact.

Inclusion of set top box (STB) data will improve the measurement for channels with smaller audiences. In 2014, it should lead to a lower margin of measurement error for viewing of specialized programming, perhaps falling from +/- 20 percent accuracy to +/- 10 percent accuracy. It may also lead to mainstream programs losing a marginal amount (fractions of a percent) of share. The inclusion of STB and VOD server log data should help improve measurement in the long run, although it will still only be approximate.

Hybrid measurement will not however reflect consumption of TV schedules of other countries, delivered via broadband. Hundreds of millions of people live away from their country of birth or origin: many of these would like to be able to watch that country's TV schedule. Satellite is one way of addressing this demand, either via subscription from domestic satellite-based broadcasters or by installing larger dishes. However this approach can be expensive and limited: the international channels of foreign broadcasters may not show the programs that friends and family of the foreign-born individuals are talking about. High-speed broadband enables demand to be met more easily, and those interested are more likely to live in cities where the fastest access speeds are available[281].

Following foreign TV schedules is not restricted to those born abroad: fans of programming in other countries may use on-demand services to view programs ahead of the broadcast schedule in their own country. For example, those wanting to watch the latest series of a US drama can use paid-for on-demand services to watch programs as soon as they are broadcast in the US, months ahead of their broadcast release window in their home country[282]. If legal services are not available, some may seek illegal alternatives – sometimes by millions of individuals[283].

Deloitte expects that as a result of foreign TV schedules becoming available via OTT services, the majority of viewing for some foreign-born individuals may fall outside of current measurement systems.

Bottom line

The current approach to quantifying television consumption was most accurate when there was a limited choice of channels, there was no other viewing choice and viewers watched on TV sets. In this context, a sample of a few thousand viewers was an accurate guide to how many people watched each program, and the share for each channel at each point of time could be estimated with a high degree of certainty.

While watching television has remained a firm feature in the lives of billions of people around the world, where, when and what we watch has evolved, necessitating a move to hybrid measurement. However hybrid measurement is likely to be a work in progress in 2014, with significant iteration required to get the best out of the additional data sources. In the long-run this new approach should be more accurate; in the near-term it may introduce some distortions.

For example adding in broadcasters' video-on-demand server data has the potential to make measurement more accurate; server logs can tell exactly how many programs have been requested and, for streamed content, how long they have been watched for. However as of 2014, in the majority of cases, these logs do not measure how many people watched each program; while it is likely that a program streamed to a smartphone is being watched by one person, that content may be mirrored on to a television set and watched by a household[284]. Further, if programs are downloaded to be watched later, the service may not measure if, or for how long, the content is watched. Including VOD data requires all entities that provide viewing data to have the same parameters.

The key advantage of incorporating STBs into measurement is their quantity: there are hundreds of millions of units around the world which can log which channel they are tuned to. But STB data has three principal deficiencies. It cannot tell who in the home is watching each program. It may not even know if the TV set is on: a STB may remain on, and tuned in, when the TV set has been off for many hours. And finally, the platform owners collecting STB data may not know the membership of each customer's household.

Analysis of STB data along with measurement data enables the development of algorithms that can interpret STB patterns better. For example a STB switched to the same channel for two hours after midnight, with no zapping between ad breaks, is likely to be connected to a TV that has been switched off.

Measurement of television viewing is getting more complex, and as a result may get more expensive. Adding additional devices and measuring viewing of foreign TV schedules are technically possible, but add to costs, possibly significantly. In some regards, fully comprehensive measurement, which includes a range of foreign TV schedules, may not be worth the effort or the cost.

Broadcast sports rights: premium plus

Deloitte predicts that in 2014 the global value of premium sports broadcast rights worldwide will increase to $24.2 billion, a 14 percent rise, or $2.9 billion over 2013[285]. This increase in rights fees will be driven by new agreements with certain top tier European domestic football leagues and major North American sports leagues. The double digit growth compares to average growth of five percent between 2009 and 2013, and is likely to exceed forecast increases in global pay-TV revenues for 2014[286]. Premium sports rights fee growth is outpacing that of the broader economy[287].

We have defined premium sports broadcast rights as the most popular sports competitions in the biggest sports around the world. These include: the top-tier domestic football leagues in each European, Asian, Latin American, Middle East and African country; the respective top regional clubs' football competition on each continent; the four major North American professional leagues – Major League Baseball (MLB), National Basketball Association (NBA), National Football League (NFL), National Hockey League (NHL); the top US college sports conferences; National Association for Stock Car Auto Racing (NASCAR), Formula 1, the Indian Premier League and Indian national team cricket.

Methodology for calculating the value of premium sports rights

Our methodology for determining the value of premium sports rights takes the following approach:

- **Only recurring annual competitions/seasons are included. Olympic Winter and Summer Games, FIFA World Cup and UEFA European Championship are not included.**
- **Rights fees have been averaged over the duration of the respective contract.**
- **Fees have been converted into US dollars where applicable, using the June 30 exchange rate in that particular year.**
- **Values for each year are based on cumulative rights fees generated either in that particular year for competitions operating on a calendar year or for competitions operating across calendar years when it is the year in which the competition finishes. So 2009 refers to competitions operating in 2009 and 2008/09.**
- **We have obtained information from publicly available information released by rights holders, and trade publications, and from confidential and proprietary sources.**

The premium sports in each market represent a small proportion of all professional sports activity measured by the number of minutes televised but they represent the vast majority of viewer interest and the bulk of all television revenues.

In 2014 about three quarters of the total value of premium broadcast rights fees will be generated by 10 competitions: the top-tier domestic football leagues in England, France, Germany, Italy and Spain, the UEFA Champions League, and the four major North American professional leagues. The substantial revenue growth in 2014 has been driven largely by new broadcast deals for England's Premier League, Germany's Bundesliga and Major League Baseball[288].

Television and premium sports are well matched for each other: at the highest level, sport is great unscripted live drama for television, and constant advances in technology lead to ever more sophisticated, compelling ways in which sports can be portrayed.

While many commentators continue to ask when the sports rights value bubble will burst[289], leading to stagnating or declining rights fees, our view is that rights fees for live content to premium properties overall will likely continue to grow.

Premium live sport continues to deliver large audiences, typically characterized by an attractive demographic profile. It drives subscriptions and/or generates advertising for broadcasters, particularly in an increasingly altered media landscape. In some cases, premium sports broadcast rights fees seem to have been insulated from wider economic pressures by multi-year contracts.

The development of pay-TV in particular has transformed the broadcasting of premium sports leagues. Live content is a key subscription driver for those leagues and underpins pay-TV business models. As the pay-TV subscriber base rises and revenue per user grows, operators are investing increasing sums to secure this key content.

New market entrants looking for attractive differentiating sports content have intensified competition driving substantial uplifts in rights fees. For example, BT's entry into the UK sports rights market, acquiring sports content to help retain and build its telephony, broadband, and pay-TV services, has resulted in substantial revenue uplifts.

The Premier League enjoyed a 71 percent increase in the value of its domestic live rights from 2013/14, while the amount paid for UK rights to UEFA's top club competitions should double in value from 2015/16[290].

There used to be just one video sports product – broadcast television – often funded by advertising or by license fee.

The range of sports video products has diversified significantly, even if consumption of sport has remained principally via the television set. Sports fans now have a wealth of video products as well as broadcast: from online video clips, to streamed video to any device.

Sports rights in the Middle East: playing at home

In the Middle East, Deloitte predicts that in 2014 the value of premium region-specific sports rights will increase by at least 15-20 percent, exceeding the 14 percent rise of all premium sports rights predicted globally[291]. Premium sports rights from region-specific sports will outgrow those from American and European leagues in percentage terms. Although American and European leagues will maintain most of their overall share of the Middle East's premium sports rights in terms of value, they will no longer drive overall growth as they traditionally did in the past.

We have defined region-specific premium sports as the biggest premium sports competitions that are either played domestically or that include domestic sports teams, in line with Deloitte's sports rights methodology. This includes but is not limited to domestic football leagues such as the UAE Arabian Gulf League, the Saudi Professional League (SPL), Qatar Starts League (QSL), and the Egyptian Premier League, as well as international competitions, such as the Asian Champions League (AFC), involving football clubs from the Middle East, and the Pakistan national cricket team, whose home ground is now the UAE, and Formula 1, which takes place in Bahrain and the UAE.

Football is widely known to be the most popular sport in the region[292], and over the past years, the region has become one of the world's top spenders and investors in European football[293]. In terms of sponsorship, Etihad paid $642 million for its 10-year sponsorship deal with Manchester City in 2011[294]. In 2012, Emirates paid about $240 million to extend its deal with Arsenal FC, $60 million more than its previous 15-year sponsorship deal in 2004[295]. Over 2011 and 2012, broadcasters Al Jazeera had paid an estimated $398 million for premium sports broadcast rights to various European football leagues such as the German Bundesliga and Italian Serie A[296]. In 2012, Bahrain's GFH Capital acquired Leeds United FC for a reported $82.5 million, becoming the first Islamic finance institution to acquire a European club[297]. Most recently in late 2013, a 50 percent stake in Sheffield United FC was reportedly acquired by a member of the Saudi royal family, the first Saudi royal to buy a foreign soccer club[298].

However, with the impressive roster of sports investments, passion for the game has led to fierce competition amongst major regional broadcasters, which has accelerated sports rights inflation for the big must-have European leagues to extremely high levels, calling into question their profitability[299].

Case in point: English Premier League (EPL)

The English Premier League (EPL) remains the world's most expensive and sought-after European league[300] and serves as a prime example of the high value paid for premium European sports rights in the Middle East.

The evolution of the EPL's MENA rights shows that competition and rights inflation has been intense and steep. In each of the most recent three-season periods, the EPL rights for the Middle East have been won by a different Middle Eastern broadcaster. In 2010, EPL broadcasting rights increased by between 200 and 300 percent for the MENA region as a result of the fierce bidding amongst the big regional broadcasters[301].

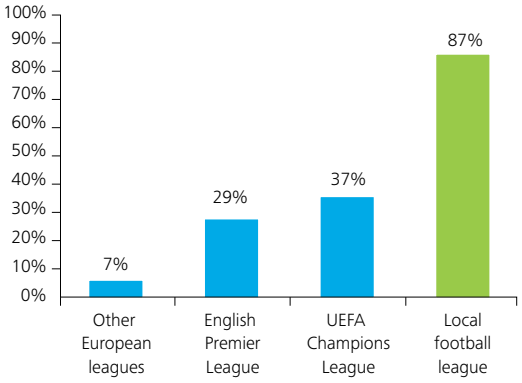
However, in the latest round of bidding, taking place in 2013, media reports suggested that growth in EPL rights value had slowed down compared to prior periods. Most broadcasters reportedly opted not to match or increase their bids over 2010 levels[302].

The fact that the EPL - the region's highest valued premium franchise - is showing signs of leveling off reaffirms the issue of economic viability for Middle Eastern broadcasters. This development marks a significant turning point in the Middle East as a sports rights market, and an exciting one.

While American and European premium sports now command very high values of broadcast rights, several factors at home are driving the rising prominence and growth in region-specific premium sports leagues and competitions.

Love for the game at home. In line with global trends, Arab sports fans in general and Arab football fans in particular most passionately follow and support their local teams and domestic leagues. On average, 87 percent of Arab viewers in the three countries hosting the biggest domestic leagues in the Middle East, follow their local league over any other leagues. These include the English Premier League and the UEFA Champions League, despite their higher standards and 'quality' in terms of players, competition, stadiums and being the largest in terms of sports rights value. Although the 'quality' of the game is an important attraction factor for Arab viewers, emotional attachment to the local game is clearly an even stronger one.

Figure 10: Arab viewing preferences of local vs. international football leagues (2012)



Source: Deloitte research and analysis[303]

Expanding fan base. The core sports consumer base typically consists of males aged between 15 and 49[304]. With approximately half in that age bracket[305] and with the region's population growing at a rapid pace, local sports leagues can also benefit from these favorable demographics to accelerate the growth in their fan base and consequently the value of advertising, sponsorships and broadcast rights. For instance, Egypt's top teams Zamalek and Al Ahli SC already command a significant following, with their fan base estimated to be around 50 million people[306].

Appreciation in sports sponsorship and advertising deals. Football is the region's primary premium sport of interest that is driving growth. Both the UAE Arabian Gulf League (AGL), and the Saudi Professional League (SPL), two of the region's biggest football leagues, have already shown solid growth.

Clubs in the UAE's AGL have already reported a 22 percent increase in combined sponsorship, advertising and broadcast rights revenues for the 2012/13 season, with a further rise expected this season[307]. Last year, the SPL and Abdel Latif Jameel (ALJ) sealed a landmark $32 million per season six-year sponsorship deal starting from the 2013/14 season, the biggest ever in Saudi football history[308].

Faster growth in regional broadcast sports rights. Growth in sponsorship and advertising is also evident in local sports broadcasting rights. Saudi plans by the General Presidency of Youth Welfare (GPYW) to privatize the SPL and its football clubs within the next few years is reportedly expected to push the SPL's broadcast rights up from $40 million per season currently to potentially $100 million per season, as much as 20 percent per annum if we assume this growth over a five-year period[309]. The resumption of the Egyptian Premier League this year has also led to increases in its broadcast sports rights, which were sold to Egypt state TV at over $10 million[310] for the current 2013/14 season, almost four times the $2.6 million previously paid by Al Jazeera for the 2011/12 season[311]. With plenty of room for growth, we expect other leagues across the region to follow suit.

Hosting international sports. Over the years, a variety of premium international sports competitions has been brought to the GCC. This has raised their profile and interest amongst Arab and expatriate communities alike and has translated into a marked increase in their regional premium broadcast value. Formula 1 and cricket are key premium sports rights which have grown remarkably since they have been brought into the region[312]. In the case of the Pakistan national team cricket, regional broadcast rights had soared by almost 330 percent from $8.5 million per season in the 2004-2008 period to $28 million per season in the 2009-2013 period[313]. This year, we would expect a similar increase.

Figure 11: Examples of international sports hosted in the Middle East

Sport	Competition	Host country	Year started
Formula 1	Bahrain GP	Bahrain	2004
Moto GP	Qatar Moto GP	Qatar	2004
Formula 1	Abu Dhabi GP	UAE	2009
Golf	DP World Tour	UAE	2009
Cricket	Pakistan national team cricket	UAE	2009

Source: Deloitte research and analysis[314]

Investment and development in local sports. Governments, clubs and key private individuals across the GCC are investing heavily in building the capabilities of their local sports leagues and clubs to improve their performance and competitiveness. Billions of dollars are being spent on infrastructure development in Qatar for the 2022 World Cup and in Saudi Arabia on stadiums for use by the SPL clubs, such as the new 60,000 capacity King Abdullah Sports City stadium in Jeddah[315].

Investments in dedicated regional sports academies are also becoming more prevalent and widespread across the region. Qatar's Aspire Academy for Sports Excellence in 2004 and the involvement of international football clubs such as Arsenal FC, Inter Milan FC and Real Madrid FC in setting up sports academies across the Middle East (e.g. Arsenal has set up academies in Bahrain, Dubai, Oman, Morocco, Egypt; Inter Milan in Abu Dhabi; Real Madrid in Saudi Arabia and Oman) are also key developments in fostering local talent[316]. In 2013, Oman's Muscat Football Academy (MFA) was announced, currently operating from an international school until the construction of its residential campus is completed in 2015[315]. As grass-roots talents are developed and new Arab champions are identified, local leagues will grow in quality, increase in competitiveness and ultimately become more interesting as a spectacle for Arab viewers to watch.

For a number of years, these forces have been at play in developing the region's sports landscape. With the major American and European leagues under the international Qatari based beIN Sports umbrella over the next few years[318], other regional and developing broadcasters will have to focus on offering local broadcast sports properties.

Bottom line

Sport as a contest has had a passionate following for millennia. Television's role has been to show this to a global audience with each viewer having the best seat in the house. The price paid for broadcast sports rights may surprise, but the symbiosis between television and sports is potent, and may become more so. Sports' mix of elite contest, success and disappointment makes compelling television.

Along with substantial growth in rights fee spend, there continues to be increased investment in the quality of broadcast production for sports. Premium rights owners face a continuing challenge to ensure cutting-edge broadcast quality, for example by evaluating the viability of ultra-high definition (UHD, also known as 4K) coverage, while broadcasters are required to consider their investment in terms of both rights fees and production spend[319].

It is important for broadcasters and production teams to review continuously the technologies available to them to enhance the value that their viewers and customers derive from being able to watch sport. For the television experience, this includes UHD, super-slow motion and a choice of live matches. On-demand services for viewers include a choice of live matches, camera angles, player tracking and instant replays, statistics and commentary. Making all this available not just via the television but also via any other device that the fan may want to use should increase perceived value, even if these additional viewing options are seldom exercised.

Sports rights owners and new technology companies continue to develop their relationship, and to consider how sports content can be both broadcast and appropriately monetized. A number of rights owners are experimenting with YouTube or other online video platforms, in order to stream live content in territories where broadcast rights have not been sold or to provide additional content. We see this trend continuing.

Owners of non-premium rights should not despair: rights fees for non-premium sports have in many cases increased, but at a fraction of the rate or scale achieved by premium properties. For these competitions and events, the challenge is to secure distribution through a suitable media platform, to obtain exposure. While rights fees themselves may be comparatively low, they may typically be a relatively important source of revenue that can also have benefits for other revenue streams.

There is also room for innovation to create new sports and formats for a global TV audience. Consider for example the case of the Ultimate Fighting Championship (UFC), whose growth has been driven significantly by pay-TV television exposure. UFC was purchased by its current owners for $2 million in 2001; it now turns over $500 million annually, is broadcast in 148 countries, and pay-per-view fees are up to $50 per transaction[320].

Middle East perspective

With very limited room for Middle East broadcasters to profitably exploit the broadcast rights of top international leagues, we are approaching an important turning point in the region's sports rights market.

Region-specific sports properties are now growing faster but compared to their European and American league counterparts are still significantly undervalued. Previous studies showed that broadcast rights of top local leagues in 2011 were at least 8.2 times less valuable than the EPL and UEFA Champions Leagues[321]. Now with higher growth prospects, we expect local leagues to bridge part of this gap, keeping in mind that there is still a long way to go before local leagues become valued at their true potential.

While the growth story is positive, regional broadcasters should be careful in balancing their investment in sports rights against the monetization value they expect to gain from an increased subscription base. Although Middle East pay-TV subscription levels are finally rising at a faster pace, with beIN Sports' 26 percent subscription growth last year[322], the growth primarily stems from more affordable pay TV propositions, driving down Average Revenue Per User (ARPU) levels in the region[323].

In such a competitive market and with TV piracy still a prevalent issue, broadcasters need to work hard to retain and grow their pay-TV subscription base. With the introduction of HD channels, video on demand (VOD) and 3D TV, pay-TV operators are now offering enhanced viewership experiences for sports. Leading regional advancements in this space include Al Jazeera's new sports contribution network for beIN Sports, implemented by and in partnership with Ooredoo. The new network enables the broadcaster to offer significantly improved high definition picture quality to all its MENA viewers directly from its Paris and Doha studios, through improved signal continuity and loss-less signal transmissions across geographies[324].

Another potential development could also see the region's telecoms operators entering the local sports rights space, as BT has done with the EPL in the UK. This is a plausible scenario as telecoms operators in the Middle East are already playing an increasing role in pay-TV and sports across the region. By bundling pay-TV with their fixed and broadband services, operators are making it easier and more enticing for the vast number of viewers in the region to buy into pay-TV services. In addition to pay-TV, telecom operators also provide cable TV services in several Middle East countries such as STC in Saudi Arabia (Invision), Ooredoo in Qatar (Mosaic TV) and Etisalat (eVision) among others[325].

Telecom operators are prolific supporters of sports in the region, even more so than in many other parts of the world. For example, STC and Mobily sponsor major SPL clubs in Saudi Arabia[326], where Zain had been official SPL sponsors up until 2013. Recently, Etisalat became the official UAE national team and President's Cup competition sponsor[327], and in 2011 du was the shirt sponsor for UAE club Al Ain during the AFC Champions League competition[328]. Now from the 2013/14 season, VIVA is the official exclusive sponsor of the Kuwaiti Soccer League (KSL) and all of Kuwait's national soccer teams for the next five seasons[329]. The Bahrain Formula 1 Grand Prix has been and still is sponsored by Batelco[330] and elsewhere, Ooredoo is also active in football sponsorship, albeit in Europe and Myanmar[331].

Apart from the airlines, telecommunications is the most active and highly featured sector in local sports. Of all the millions that is spent by the region's telecom operators on local sports sponsorship deals, entering the compelling broadcast sports rights arena could also present a lucrative opportunity for them to offer great sports programing to the region's Arab viewers.

Performance rights lift recorded music revenues

In 2014, Deloitte predicts that revenues from performance rights, a license payable for the right to play music to the public, should exceed one billion dollars for the first time[332]. This may seem insignificant relative to other parts of the technology, media and telecommunications sector, but for the $16 billion recorded music industry, this is material[333]. Performance rights, which are collectable from all sizes of company from bars to broadcasters, should continue to grow over the next few years, and are likely to be the fastest growing industry segment[334]. Over time performance rights revenues should reach $2 billion, although the timing for this is uncertain.

Music is everywhere. But its ubiquity is arguably under-monetized. There are few of us who go a day without being exposed to music in some form, be this a song played on the radio, a tune in a shopping mall or an elevator melody. For millions of businesses, music adds value[335]. It relaxes passengers when entering a plane, it sets the mood in movies and TV programs and it exhilarates younger shoppers. Collectively we listen to broadcast music trillions of times a year, on the car radio, in the hairdresser and elsewhere: in 2014 the global collective license fee for this is likely to be under $3 million per day.

Growth in performance rights revenues, both recent and anticipated, has been driven largely by three mechanistic developments.

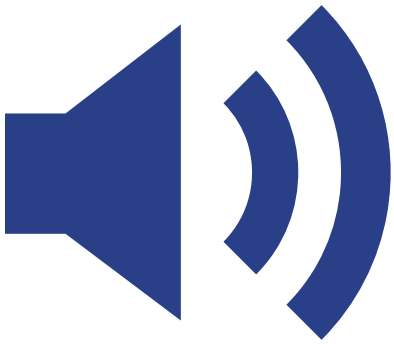
First, in countries where a license is obligatory, there has been a steady growth in the number of businesses paying a license. Typically collection societies would contact companies currently not paying a license, but in some markets growing awareness of the legal requirement to pay a fee has driven pro-active payment, which has reduced the cost of collection[336].

In other markets, there is plenty of scope for payments to increase, as the current degree of under-collection is notable. For example, the Netherlands currently collects more performance rights revenues than Spain, despite having a third of the population.

Second, the fee paid by larger entities, such as television and radio broadcasters, has been increasing year-on-year on a sustained basis in major markets. Historically, the quantity of some licenses has been agreed on an ability-to-pay basis. So a small radio station may claim that its profits would only permit a modest fee. But increasingly fees are being agreed on the basis of value. Fees paid by small businesses have also increased in some markets[337].

Third, a growing number of countries which formerly did not collect revenues on a formalized basis have introduced, or are in discussions to introduce a licensing process. The most significant of these markets is China whose inclusion could add tens of millions of dollars per year[338].

Global performance rights revenues are likely to be affected by the evolution of the US music market, which is the largest recorded music market in the world – generating almost half of all revenues. The US market could generate a significant uplift from the introduction of a performance right on analogue FM radio, which is currently exempt from such payments[339]. Songwriters receive a fee every time a song is played on FM, but the performer currently does not. However songs played-out on digital services, such as satellite radio or online streaming, do generate a performance payment, and usage of these services is growing. At the end of 2013, there were 26 million subscribers of satellite music service in the US, and about four million subscribers of online music services[340].



Bottom line

In every industry, no matter how bruising the environment there is normally a green shoot[341]. And for the music recorded industry, the biggest growth engine is performance rights. Performance rights revenues may appear modest, but for the music industry they are significant, as receipts largely flow to the bottom line: collection in most countries is handled by collection societies, whose costs are deducted from fees collected.

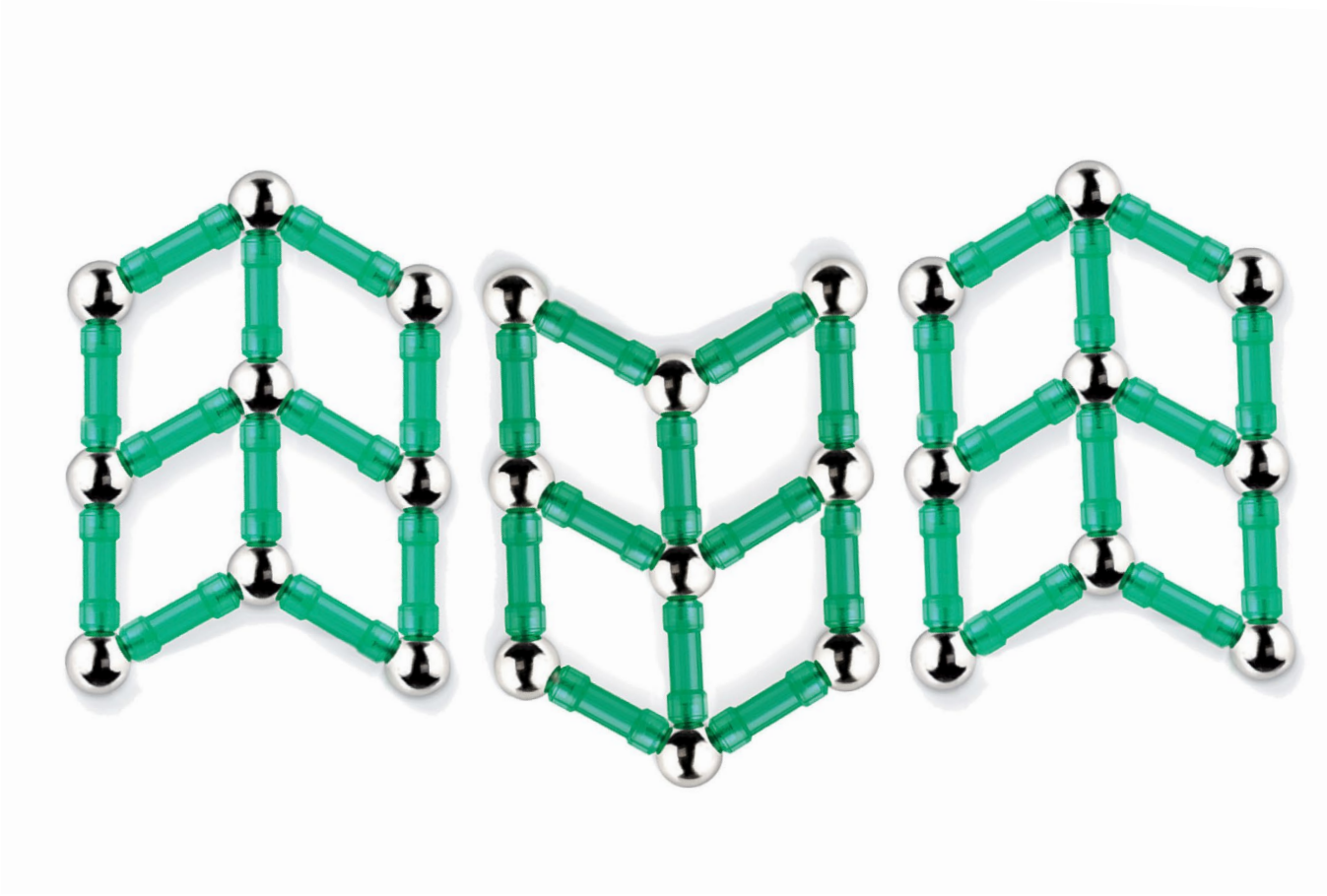
To maximize revenues from performance rights – and to deliver growth to the sector – the music industry should consider the following:

- Emphasizing the ability of good quality recorded music to add value to businesses: this should help avoid the perception that license payments are a form of tax. The industry needs to help licensees understand that without quality music, their businesses may be less appealing places;
- Raising awareness of the need to pay a license, and facilitating self-service payment and renewal;
- Ensuring the collection of license money is performed in the most efficient way both within and potentially across countries. This could include joint collection ventures with the publishing collection societies and related outsource deals.

The music industry needs to price its assets cleverly to allow its licensees to grow whilst maximizing its regulatory right to the revenue[342].

Music is everywhere. But its ubiquity is arguably under-monetized. There are few of us who go a day without being exposed to music in some form, be this a song played on the radio, a tune in a shopping mall or an elevator melody.

Telecommunications



Short messaging services versus instant messaging: value versus volume

Deloitte predicts that in 2014 instant messaging services on mobile phones (MIM) will carry more than twice the volume (50 billion versus 21 billion per day) of messages sent via a short messaging service (SMS)[343]. This is a significantly greater ratio than in 2012, when 1.1 instant messages were sent for every text message[344]. It might be supposed that the growth in MIM is coming at the expense of SMS and mobile carriers. However despite the burgeoning volumes of messages carried over MIM platforms[345], we expect globally SMS to generate more than $100 billion in 2014, equivalent to approximately 50 times the total revenues from all MIM services[346].

So MIM services may win the battle for volume in 2014, but SMS will be victorious in global revenue terms. We expect SMS to continue to generate significantly greater revenues than MIM even as far out as 2017, by which point global SMS revenues are expected to have started falling[347]. We would also expect MIM services on mobile phones to continue to substitute not just for SMS, but all other forms of communication, from e-mail to phone calls.

Text messaging's superior revenue-generating ability is due to three main factors: ubiquity, infrequency and price.

SMS is the one messaging standard common to almost every mobile phone[348]. There are 3.2 billion unique mobile subscribers that can send and receive SMS[349]. MIM is popular, but it requires a smartphone, tablet or MP4 player. It also needs a mobile data plan, or a connection to a Wi-Fi network. Both are ubiquitous in some regions in the world, but in some markets, such as most of the African region, only a minority has mobile broadband, and even fewer have fixed broadband.

Further, many over-the-top (OTT) providers are incompatible with each other. Communication via an OTT service requires all parties to have the same app. A WhatsApp customer cannot message a WeChat user directly. In order to communicate, the requisite app would need to be downloaded; otherwise SMS would have to be used[350].

Some MIM services only work with a single brand of phone. When sending a message to someone using a different manufacturer's phone, SMS is the choice by default.

While SMS is common to all smartphones, most smartphones are likely to send far fewer SMSs than MIM messages in 2014. But the relative infrequency of sending SMS compared with MIM may be a key reason why SMS is able to generate greater value. Mobile phone users may be relatively insensitive to SMS tariffs as they send few text messages relative to those sent via MIM services. Feature phone users may send few messages via their phones. For both types of mobile phone, users may be willing to spend 10 cents per message on the assumption that in a given month they would send fewer than 10 messages.

It is also important to note that while MIM and SMS are based around messaging that is predominantly text based, there are subtle but fundamental differences which engender different behaviors. MIM is based around two-way communication and an interchange of quick-fire responses. Presence awareness often acts as a signal for one correspondent to start conversing with another – or multiple others. Further, instant messaging's origins are as a free-of-charge PC-based service. By contrast SMS is more about individual, paid-for messages, for sending information.

Smartphone users travelling abroad may prefer to use text messaging, as it may be cheaper while roaming to send an SMS than to purchase a mobile data package so as to be able to send and receive MIM. And some users may simply not have mobile data roaming enabled.

MIM's lower direct revenues may also be due to the provider's business model. Some MIM services are a value-added offering to all users of a manufacturer's device. For example Apple's iMessage service is a feature of the device ecosystem and there is no subscription involved[351]. Facebook's communications services for mobile devices may help drive mobile advertising revenues. Some services such as WhatsApp seem to be focused, at least for now, on capturing the largest possible user base, and are not focused on revenue. Other services such as Snapchat may focus more on the value from accumulating large volumes of users, to whom value-added services can subsequently be sold[352].

In 2014 it is very likely that trillions of MIMs will be sent in place of a text message. But it is also very likely that, billions of times per day, MIMs will also be sent instead of e-mail, tweets or other forms of communication such as phone and video calls.

SMS's significant revenues and margins in 2014 are likely to contrast with the challenges facing some standalone MIM service providers. Competition between MIM providers may prevent significant profitability from being achieved[353]. With some providers relying on revenues from app purchases or one-off annual fees, average revenue per customer is low. For example, WhatsApp charges a dollar a year per subscriber[354]. Other providers have included virtual goods or games in their offering, and their revenues are growing fast[355]. For example Line generates about 69 cents per customer per quarter from in-app purchases, advertising and games[356]. As more services become available and competition increases, some providers are forced to buy TV ad space to raise awareness, rather than relying on free viral marketing[357]. Indeed the MIM business model may face substantial challenges in 2014, and the upper limit on revenues may be surprisingly low: a MIM provider with seven billion users, charging a dollar per year, would have a fraction of SMS' global revenues.

MIM and SMS are likely to be regarded as direct competitors in 2014[358]. One analyst estimated that in 2013, MIM depleted SMS revenues by $32 billion. A single text message costs a few cents to send, but an MIM consisting of 200 characters of text may generate about 0.01 cents if the subscriber is paying $10 per gigabyte, and the MIM provider may not earn anything from this[359]. Given the rising volumes of MIM messages in 2014, the implicit loss might be even higher[360]. However over the past few years, global SMS and MIM volumes and revenues have grown in tandem[361].

But while MIM may be taking revenue from mobile operators in the form of lost text messaging revenues, it may also be driving demand for mobile broadband. And in 2014, revenues for mobile broadband may overtake SMS[362]. While it is difficult to assign an exact value for the impact of instant messaging on the take-up of mobile broadband, it is sizable, and should become larger still over time, as MIM services are used increasingly to send large audio and larger video files. A one minute-long video sent via MIM is more than 1,000 times larger than a text-only MIM (see Figure 12 for approximate file sizes by different type of messages).

Figure 12: Approximate file sizes by type MIM message

Type of MIM message	Approximate size (in KB)*
Text-only MIM (approximately 150 characters)	10
Photo	100
Audio file (one minute long)	150
Video file (one minute long)	12,000

Source: Deloitte analysis based on publicly available information[363]

* File sizes are considerably compressed when sent via an MIM application and will not reflect its actual size.

Bottom line

Text messaging's heyday is approaching but in 2014 it should still generate significant margin for the mobile industry. Its importance should be neither overlooked nor underestimated.

There are several ways for operators to respond to the negative long-term outlook for SMS.

One would be to try and create an operator-owned OTT MIM to rival the existing providers. For this to work as well as SMS, it would need to be a global standard; if the industry relies on opt-ins on a per carrier basis, adoption is likely to be too slow[364].

A further option would be to incorporate MIM-type features into SMS, such as by replicating the ability to send messages to groups easily, and to include audio and video clips. Presence functionality may also help.

A third option would be, rather than compete with MIM services, to encourage their adoption, so as to increase take-up and usage of mobile data. Carriers should evaluate the merits of exposing network and data assets to OTT players via APIs (Application Programming Interfaces)[365]. Carrier APIs allow third parties to integrate their applications and services more closely with the mobile device, the SIM card and elements of the network. Functionality ranges from in-app advertising through to 'add-to-bill' processing, which allows the value of in-app purchases, such as emoticons, stickers and games, to be added to the monthly phone bill. Given that MIM services tend to have low consumer loyalty, carriers could help improve the dynamics of OTT MIM, whilst at the same time positioning themselves to capture a share of MIM revenues. Figure 13 provides an example of some of the APIs that a carrier could expose.

Figure 13: examples of carrier APIs

Source: Deloitte research using various publicly available sources[366].

A final option for carriers would be to encourage the usage of SMS as a bearer for application to person messages (A2P), which are used to send personalized messages to individuals, from advice of bank balance, to warning of a delay to a flight, to a reminder for a medical appointment. One analyst has estimated that A2P messaging volumes could grow an average six percent per annum over 2013-2017[367].

Standalone MIM service providers aiming to maximize revenues may need to diversify their income streams. Some providers may become content platforms. In Asia Pacific, companies such as KaKao and LINE are monetizing their significant installed bases by positioning their service as a platform for games, virtual goods and advertising. Deloitte estimates that revenues generated for MIM service providers from games bought or played on their platforms and other virtual goods, such as stickers, will be worth over $1 billion in 2014 – a significant sum, albeit still a fraction of revenues generated by SMS services. Standalone MIM providers may also want to generate additional revenue from advertising, but this might cause some users to change their service.

Middle East perspective

The global decline in SMS volumes at the hands of mobile instant messaging (MIM) is also felt by telecom operators in the Middle East. In the UAE, SMS volumes have dropped considerably in recent years, with a decline of 24 percent between 2009 and 2012[368]. MMS declined even faster, almost 50 percent over the same period[369]. This trend should not surprise, particularly in the UAE, which at 74 percent has emerged with the highest smartphone penetration rate in the world[370], and where MIM are the most popular, frequently downloaded and used apps. Surveys amongst users in the region reaffirm this, with 77 percent ranking communication apps the most popular and 58 percent using them the most frequently[371]. For example in Saudi Arabia, the largest smartphone market in the Middle East and third globally with 73 percent[372] penetration, WhatsApp was the most downloaded paid app towards the end of 2012[373].

Two areas of concern for regional telecom operators arise from this. The first is the fact that both globally and locally, SMS and MMS is declining. The second is the pace of that decline in the Middle East, estimated at 9 percent per annum so far in the UAE alone. In dollar terms, we expect the impact of OTT on operators' SMS and MMS revenues to be in the range of 5 to 6 percent in the next 5 years[374]. Though this seems small, SMS is still one of the highest margin services provided by operators, so the impact on profit could potentially be greater. At the same time, higher smartphone penetration and stronger affinity to MIM makes it more ubiquitous in the Middle East than anywhere else in the world. Coupled with increased multimedia sharing in the region, MIM is a stronger driver for data consumption. For example, WhatsApp's recently rolled out cross-app content sharing capability has enabled one Middle Eastern music streaming service to share 50 percent more of its songs via WhatsApp than on Facebook[375]. That said, we also expect Facebook's recent acquisition of WhatsApp to accelerate the region's MIM data sharing and consumption habits as well as to increase the user base across both, as it seeks to integrate messaging and photo services across the two platforms[376].

Globally operators have used one of the following strategies to combat OTT: defend (block OTT MIM, improve SMS pricing), replicate (compete with their own OTT MIM, acquire an existing OTT MIM) or partner. In the region, we expect operators to adopt a partnering approach to encourage data consumption and expand new revenue streams. Saudi Arabia's Mobily has already taken this step through its partnership with WhatsApp in 2012. Under the agreement, Mobily can exclusively launch WhatsApp packages in the Kingdom, in which users pay a monthly or weekly subscription fee to enjoy unlimited WhatsApp usage[377].

In the interest of maximizing the bottom line, operators in the region should also aim to retain and extract the most value from their SMS share while they can, for instance through application to person (A2P) messaging from GCC mGovernment programs, mobile banking and business to consumer (B2C) SMS advertising. At the same time, operators should capitalize on the greater volume of data consumption that the region presents with its broader MIM base.

Phablets are not a phad

Deloitte predicts that in 2014 shipments of phablets, smartphones with 5.0-6.9 inch screens will represent a quarter of smartphones sold, or 300 million units[378]. That is double the 2013 volume, and 10 times 2012 sales. Phablet revenues should be about $125 billion, implying a $415 average selling price, which is about 10 percent higher than for smartphones as a whole[379]. But after initial rapid consumer success, 2014 may mark a 'peak phablet' year, as only a (sizeable) minority of smartphones users will want to handle such a large device.

But even at 25 percent of the market, it is tempting to ask: "Where are all these large-handed people, and where do they buy jeans big enough to fit their phablets?"

Two thirds of phablets in 2014 will be less than 5.1 inches, only just meeting the definition, and less than 10 percent are likely to be six inches or larger[380]. About 25 percent of 2013 phablet sales were new versions of existing devices that enlarged the screen and shrank the bezel, rather than actually making the phone itself larger[381].

Although almost all phablet growth is at the low end of the size range, the category as a whole is more popular in some markets than in others.

In the second quarter of 2013, Asia-Pacific excluding Japan saw 25 million phablets sold – more than tablets or notebook computers. Phablet sales doubled quarter over quarter, and 620 percent over the last 12 months[382]. Other markets that have seen dramatic increases in phablet sales include the Middle East[383], Singapore[384] and India, where phablet sales were over 30 percent of the smartphone market in Q2 of 2013, and unit sales were up 1,700 percent from the same period in 2012[385]. In contrast, EMEA sales of phablets represented only eight percent of smartphone sales in late 2013[386], and North America was only slightly ahead at 10 percent[387].

There are various explanations as to why phablets are so much more popular in some markets than others. One theory is that the phablet may be a superior mobile gaming device. In South Korea, for example, the most popular app store generates 68 percent of revenues come from video games; and for those who can't afford or don't want a console or PC gaming solution, the large phablet screen is a leading choice[388]. Another possible explanation is that for a portion of the population, especially in urban Asia-Pacific settings with crowded mass transit systems, phablets act as an all-in-one device that combines the features and functionalities of a smartphone, portable gaming device, tablet and PC[389].

Another possible cause relates to language, and may explain why phablet sales in much of Asia Pacific are strong, but weak in Japan[390]. Written Japanese has three scripts: kanji, hiragana and katakana[391]. Texting in kanji (based on Chinese symbols) is more difficult on a smartphone screen, so the other two scripts dominate texting as they are easier[392]. In comparison, Korean, Chinese and to a lesser extent Hindi and Arabic are like kanji, and more complex for a small screen, and texting may be easier on the large screens and larger virtual keyboards of phablets.

Prior to 2007, the average smartphone screen was small: the need for a physical keyboard meant that the screen area was typically 2.5 inches or less, even for large devices. The arrival of capacitive touch screens meant that the screen could expand to occupy most of the smartphone, boosting size to 3.5 inches. At first that seemed sufficient, but manufacturers tried out something slightly larger and four-inch screens began to sell in small volumes. Over time, there seems to be a 'screen creep', where phones that were deemed too large to use at first become the new normal over time.

Therefore it seems reasonable to ask whether there is any limit to screen inflation, and what percentage of the smartphone market might be captured by phablets, especially those over 5.1 inches?

The human body and clothing are almost certainly limiting factors.

Most smartphone users want to type on their device with only one hand, at least some of the time. Even for a big person with big hands, that normally requires a phone less than six inches[393], and many smaller people may struggle with phones bigger than 4.3 inches[394]. While some users may be willing to use two hands on their phone, and some software techniques make one-handed use easier on a phablet[395], it seems likely that most users will prefer smaller devices.

Next, many smartphone users may not want a phablet that appears out of scale next to their head when making voice calls. Some people may use a headset, or make very few calls, but they seem likely to be a minority.

Finally some users who habitually carry their smartphone in their jeans, jacket or small purse. Although one clothing manufacturer increased its front pocket size to handle larger phones[396], it seems likely that many consumers will not consider a phablet because of stowage reasons.

Given the sizes of the various groups who will not want a phablet as their everyday phone, it seems probable that they may have an upper limit of between 30-40 percent of the total smartphone market, which suggests that their market share may reach a plateau in either 2014 or 2015.

A complicating factor may be multi-device ownership. According to Deloitte's research, in every country with significant numbers of phablet owners, more than 50 percent also had a smaller smartphone; and the number was more than 70 percent in Singapore, South Korea and Spain[397]. If an increasing number of users choose to own both form factors, it seems likely that on those days when small size, lots-of-voice-minutes or one-handed usage is most important, the smaller device will be jammed into a pocket. But when the day's usage tilts towards text, video and gaming, the larger device will get put into the backpack or purse. Ultimately, it may be more appropriate to think of the phablet as a supplementary device for many users, with very few thinking of it as their only smartphone.

It is likely that the buyers of phablets over the next year will be mostly gamers, texters and mass transit users. Another potentially large market is those in the 55+ age group. Currently under-represented in the smartphone market, older consumers may find the large, bright screen, comfortable virtual keyboard and audible loud-speaker just the right ingredients to persuade them to buy (for more information, see the 2014 Prediction: The smartphone generation gap: Over-55? There's no app for that).

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Bottom line

The biggest difference from smartphone usage compared to phablets is the size of the screen. Currently very little video is watched on smartphones, although it is growing rapidly: almost six hours per month in the US, versus 160 hours per month for traditional live and time-shifted TV on a TV screen[398]. Tablets, with their larger screens, have 40 percent more video consumption via apps than smartphones[399]. As more phablets become part of the installed base, the number of hours of video watched on all smartphones devices is likely to climb. In spite of limited viewing hours, video already represents 40 percent of downstream primetime mobile data traffic in North America and 36 percent in Europe[400]. Operators will need to consider the implications of growing phablet penetration on their networks, both at the radio access network level and the backhaul level.

Further, large screens are likely to be better for display advertising and in-app purchase. As the Deloitte 2013 Prediction pointed out, large screen tablets generated $7 per device per year in displays ads, while smartphones (mainly under five inches in 2013) generated only $0.60 per device per year[401]. A five-inch phablet may only be a few cents more in annual display advertising revenues, but a screen of over six inches would likely be capable of generating more than an additional dollar in revenue.

Bigger screens on phablets don't necessarily mean higher quality pictures: a lot depends on pixel size. Some phablets offer true 1080p (1920x1080) screens. Others, even of the same screen size, support 1280x720 images. As at the end of 2013, no phablet has a 2160p (Ultra HD) screen; but a few have cameras that shoot in Ultra HD, and since there are seven-inch tablets with Ultra HD screens, some phablet manufacturers may offer this option in 2014[402].

As phablet screens move to higher resolution, the data required for video or gaming will increase sharply, with 2160p requiring 16 times as many bits as 720p, all other things being equal. Carriers' data plans will need to reflect the fact that phablet users are likely to be amongst the heaviest smartphone data users.

A challenge for website and app designers will be how to best use the larger screen area that phablets offer, with the choices being more critical for devices over six inches. For video consumption, it's not an issue: a bigger screen is almost always a better screen. But for email or web browsing, there is a fundamental design decision: do users want and need bigger fonts and larger objects, or do they want more things (at the same size) to be shown on the larger screen? For phablet buyers aged over 55, a preference for bigger fonts and larger virtual keyboards seems likely, while younger users may prefer having more information at their fingertips.

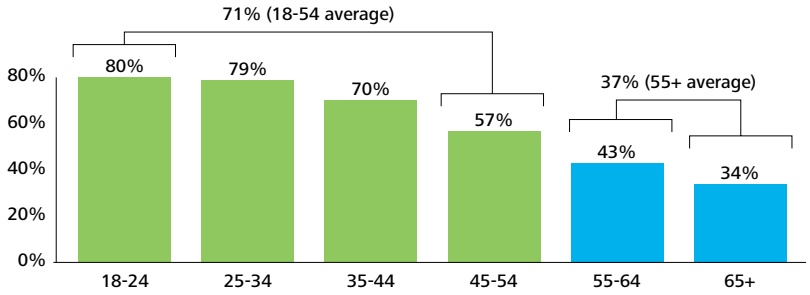
In a similar vein, device manufacturers should think about how best to use screen real estate, especially within the context of the operating system. Simply making the user interface (UI) components and features larger is unlikely to be enough to please increasingly sophisticated customers. Specific features that make the most of the screen size, such as UI components optimized for single-handed usage, or custom input devices such as styluses, may help to create a more refined and appropriate user experience.

Some smartphones support multitasking, with more than one application running in the background. Larger screens introduce the possibility of having two apps open at the same time[403]; this will put pressure on application processors, graphics capacity and even memory.

The smartphone generation gap: over-55? There's no app for that

Deloitte predicts that in 2014, the over-55s will be the age group experiencing the fastest year-on-year rises in smartphone penetration across developed markets. Ownership should rise to between 45 to 50 percent by year-end, lower than the 70 percent penetration rate for 18-54 year olds, but a 25 percent increase from 2013 (see Figure 14 for smartphone penetration as of May-June 2013)[404 405]. Over the coming years, the gap should steadily narrow and become negligible by 2020.

Figure 14: Smartphone penetration in developed countries as of May-June 2013

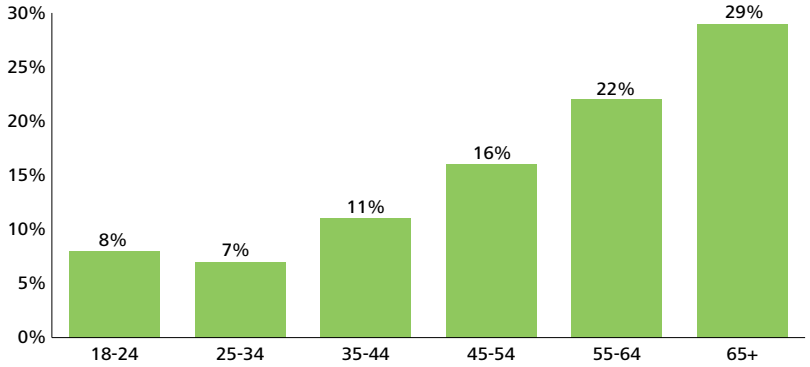


Source: Deloitte Global Mobile Consumer Survey, Developed countries, May-July 2013

Weighted base: (Respondents from all age groups) Belgium (2,000), Finland (1,000), France (2,000), Germany (2,000), Japan (2,000), Netherlands (2,009), Singapore (2,000), South Korea (2,011), Spain (2,000), UK (4,020), US (2,000)

Note: the averages have been calculated by using actual numbers

Figure 15: Smartphone owners that have never downloaded an app by age groups (Developed countries)



Source: Deloitte Global Mobile Consumer Survey, Developed countries, May-July 2013

Weighted base: Smartphone owners (main phone): Belgium (690), Finland (467), France (969), Germany (997), Japan (603), Netherlands (1,136), Singapore (1,632), South Korea (1,587), Spain (1,242), UK (2,392), US (999)

The closure of the gap is inevitable: it is becoming almost impossible to buy a feature phone. But while the difference in smartphone penetration by age may disappear, in 2014 there will likely be substantial differences in how individual age groups use them. Although over-55s are increasingly buying smartphones, some use them as feature phones. Getting them to exploit the data functions is a key opportunity for network operators.

Older generations have been slower in adopting PCs and using the Internet[406]. However once the 55+ group overcame their initial lack of confidence, they became and remain enthusiastic users.

The situation with smartphones is more nuanced: while less powerful than most PCs, smartphones have a wide array of features and functions, from GPS navigation to Internet radio to HD video cameras. Some of this functionality is not straightforward to use, so while features such as navigation may be appealing to seniors, accessing them can be overwhelming.

An additional challenge with exploiting smartphones' full potential requires interacting with the broader ecosystem – such as apps stores – which delivers much of their utility. Deloitte's research found that among 11 developed countries at least one in four smartphone owners aged 55+ had never downloaded an app to their device (see Figure 15)[407]. One of the reasons for this may be the scale of the marketplace: two million apps are daunting, particularly when there is no filter by the user's demographic[408]. In 2014, we expect a quarter of 55+ smartphone owners may not download a single app.

A reluctance to download apps may have an impact on many other dimensions of smartphone usage. For example, we expect that over two thirds of smartphone owners aged 55+ will not use mobile instant messaging (MIM) in 2014. Across the entire base of smartphone users, MIM is one of the most widely used app-based services for smartphones: 56 percent of 18-24 year old smartphone owners use MIM on a weekly basis (see Figure 16).

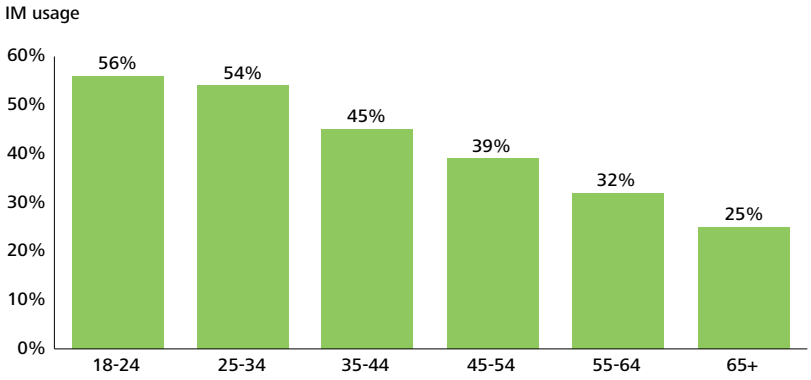
Similarly, more than two-thirds of over-55s do not use their smartphone for social networking while 75 percent of 18-24 year olds do (see Figure 17). Yet on PCs, as of May 2013, 60 percent of 50-64 year olds and 43 percent of 65+ year olds in the US were using social networking sites[409].

There are a number of factors that inhibit smartphone adoption by seniors. For example, consumers of all ages are confused by metered data plans; this confusion may be particularly acute among older consumers. Indeed, a quarter of over-55 smartphone owners do not know how large their data allowance is, compared to a sixth for 18-54 year olds. Moreover, many over 55s may be put off by press articles about bill shocks caused by exceeding data allowances[410].

A second challenge is the user interface. Though smartphones have ever-larger screens, few apps and services cater for consumers with less acute vision. One smartphone vendor, however, offers an 'Easy Mode' with fewer home screens, apps with bigger icons and a home screen dedicated to calling, all which are meant to aid the transition to a smartphone for first- time buyers[411].

Then there are the apps themselves, which are arguably designed by younger people, for younger people. Among the more than two million smartphone apps, few have been designed for older generations. Apps developed for older consumers tend to focus on health and wellness; some remind these individuals of their diminishing faculties[412]. There is no obvious reason why older consumers should not enjoy the same breadth and depth of services as other generations – they should just be customized to be easier to use, or at least more intuitive for older generations with application and functionalities brought to their fingertips.

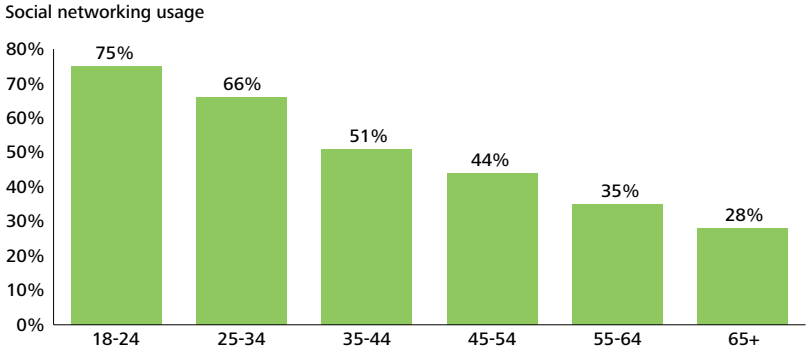
Figure 16: Weekly IM usage on smartphones by age groups (Developed countries)



Source: Deloitte Global Mobile Consumer Survey, Developed countries, May-July 2013

Weighted base: Smartphone owners (main phone): Belgium (690), Finland (467), France (969), Germany (997), Japan (603), Netherlands (1,136), Singapore (1,632), South Korea (1,587), Spain (1,242), UK (2,392), US (999)

Figure 17: Weekly social networking usage on smartphones by age groups (Developed countries)



Source: Deloitte Global Mobile Consumer Survey, Developed countries, May-July 2013

Weighted base: Smartphone owners (main phone): Belgium (690), Finland (467), France (969), Germany (997), Japan (603), Netherlands (1,136), Singapore (1,632), South Korea (1,587), Spain (1,242), UK (2,392), US (999)

Bottom line

Over a quarter of adults in developed countries will be 55 or older[413]. The attractiveness of the 55+ group has long been recognized: with longer life expectancy[414], older consumers are likely to continue working, accumulate an ever-greater share of global wealth and be increasingly interested in technology[415]. This age group – which is likely to continue growing in absolute numbers and share of adults over the medium term[416] – is likely to control a large proportion of disposable income in their countries[417]. They are not just an untapped market; they are a lucrative untapped market.

For wireless carriers, targeting the over-55s could be particularly effective. Carriers should ensure that all aspects of service, from the structure and explanation of tariff plans, to customer service are appropriate for this group. They could also offer all-you-can-app tariffs, which would provide unlimited access to customers' preferred services for a fixed fee[418]. Network operators may wish to offer multi-generation family tariffs, which would, for example, allow older generations to gift air time and data bundles to relatives.

Carriers should create dedicated customer service programs labelled as 'for first-time' users, but with seniors likely to be key users and beneficiaries of such a service. The service should include online, telephone based and in-store assistance with app downloads, browsing, GPS based navigation, video calling and mobile instant messaging[419]. A dedicated customer service plan could become a key differentiator in a market in which self-service is being increasingly pushed by operators. Mobile carriers may consider setting aside dedicated retail space for first time smartphone users within their stores to grow revenues not just from older consumers but also from tentative smartphone users of all age groups.

Discoverability remains a key inhibitor to app downloads. App store providers may need to consider adding filtering options based on demographic relevance. Moreover, as some consumers in this age group may delegate the app discovery and download process to friends or family, app developers may need to consider adding a functionality that allows approved users to take control of devices remotely.

‘Ruggedized’ data devices at $250: reinventing the business case for mobile field force

Deloitte predicts that in 2014 the entry price for a ruggedized, connected data device that can be used by some field force workers, and used to undertake tasks such as car rental check-in inspections, inspecting highways or delivering packages, will fall to $250. We expect incremental annual sales of almost 10 million units in 2014, effectively increasing the size of the entire rugged data device market by almost 50 percent to over 30 million units in 2014[420].

The main driver for this fall in price will be a shift in approach, from only deploying data devices that are built to be rugged and capable of withstanding rough handling, exposure to dust and moisture, and the occasional fall on hard floors, to purchasing a standard consumer smartphone or tablet with a toughened screen, and further protecting it by adding a rugged case[421].

This development does not signal the end of the existing market for ruggedized data devices. Rather, it indicates that the lower price points made possible by twinning selected consumer data devices with a rugged case will open up connected working for tens of millions of additional field force workers around the world in 2014. This should increase their productivity, through enabling a range of connected applications such as data entry, job allocation, and viewing maps and drawings. The lower entry price for rugged connected data devices, particularly when combined with pay-per-use mobile field force software[422], may remove the need even to present a business case.

Connected data devices – smartphones, and more recently tablets – have for many years been ubiquitous among the hundreds of millions of office users, but have had relatively low use among field force workers. Connected devices in offices have been used in a fairly benign environment, protected in pockets and purses, and rarely exposed to harsher, outdoor, dusty settings; most connected data devices launched over the past decade would not have survived intact in harsh environments. And this is why for many years field force workers have been issued with highly rugged devices, be they walkie-talkies or PDAs used for data entry. In the latter case, resilient devices could cost over $1,000 per unit, and software a few hundred dollars per year.

But not all field force deployments require the same level of ruggedness: for millions of existing rugged device applications and tens of millions of potential users, ultra-rugged devices may be overkill.

Therefore in 2014, alongside continued utilization of existing models of rugged data devices, we would expect about 10 million additional deployments of standard, consumer smartphones and tablets to field force workers, with the only adaptation required being a case, priced between $30 and $100. This would enable the cost of smartphone plus case to start from about $250 for a specification sufficient for a field force worker: a 1.5 GHz processor, eight gigabytes of RAM, a sufficiently toughened screen (4.5 inches or larger), Wi-Fi, Bluetooth and cellular mobile[423].

There are three key trends at play which enable the price of devices suitable for field force usage to fall to $250 including the case.

First, Moore’s Law and exceptional economies of scale deliver a markedly improving specification for devices at each price point over time[424]. About 1.5 billion smartphones and tablets, built for the consumer market, should ship in 2014. This compares to about twenty million units of ruggedly-built devices sold in 2012[425].

Second, consumer devices over the years have become increasingly robust, able to cope with increasingly intensive usage patterns, and also to act as a differentiator. Today’s smartphones and tablets need to be able to cope with thousands of hours of active use in their life time, and many thousands of hours being carried around in pockets and bags[426]. This has led to the incorporation of scratch-resistant screens and casings – and even cases that ‘heal’ minor scratches. Screen resilience should continue improving, and in 2014 devices with synthetic sapphire screens, sufficient to withstand repeated knocks against concrete, are likely to reach mainstream consumer devices[427]. There are already touch-sensitive screens which have been designed to work with standard gloves, a critical feature for devices used in cold environments[428]. A growing range of consumer smartphones and tablets are water-resistant, and able to cope with pool-side and bathroom usage. This feature, which also provides dust-proofing, makes them much more suitable for use in the field[429].

Third, rather than depend on physical protection for devices, enterprises are also focusing more on behavioral change and identifying how workers could be encouraged to look after their devices. A device that is set up to provide both business functions and personal applications, such as consumer instant messaging, or simply taking good quality photos of family, may be more likely to get careful treatment.

Bottom line

Using mobile technology to increase the productivity of the world's billion field force workers has long made sense, and it has long since been regarded as a key application for mobile networks. But many projects have historically foundered on cost. Deployments that have been signed off have required a significant investment in business process reinvention to make the case viable, limiting the number of mobile field force projects that get approval.

However, the price of devices, software, and mobile broadband are all falling and this is creating ample opportunities to harness mobile-enabled devices to increase field force worker productivity.

For carriers, greater mobile field force use would increase data traffic and revenues. Field force systems integrators should identify which consumer-targeted smartphones and tablets being launched, or already being sold, could be readily re-purposed for field force usage. For software developers, one approach would be to create standard, off-the-shelf field-force solutions and apps that customers can use: for example an app that takes a picture of a defective water heater part, automatically assigns it a trouble ticket, and geo-tags it to the customer's address and links to its file. Software publishers should also identify the contexts in which field-force software could be used in a bring-your-own-device context.

Enterprises evaluating the rising applicability of mobile field force should be risk-aware: as with all technology deployments, security is paramount. To mitigate risk, enterprises should consider using a 'sand box' approach, whereby consumer data is kept separate from enterprise data, and incorporating remote-kill functionality that can instruct a stolen device to wipe its enterprise contents[430]. Most smartphones and tablets have integrated cameras, and in some contexts these may need to be disabled during working hours or in certain locations, to lessen the possibility of intellectual property being compromised.

While encouraging use of corporate-issued field force devices for personal applications, companies should pass on mobile data costs resulting from usage of non-work related applications. While the price per gigabyte over cellular mobile is falling, it is still between $5 and $10 in many markets. This may be acceptable for work usage, but is not justifiable for watching video or sending photos of friends and family.

Employers should also consider all approaches for encouraging workers to protect, and not punish, their devices. One option may be to have a scheme for selling devices to employees after a couple of years' usage – this may well encourage better treatment, if the price is right[431].

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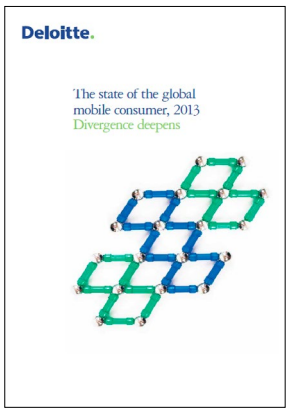

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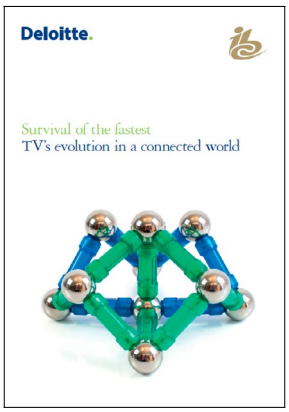

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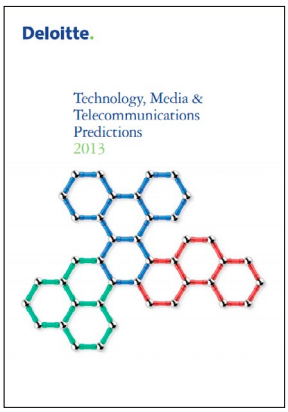

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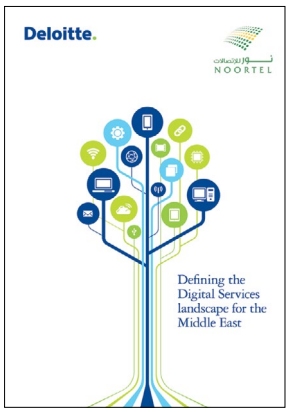

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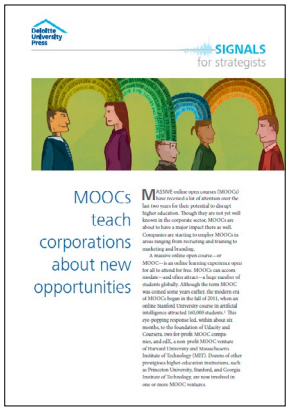

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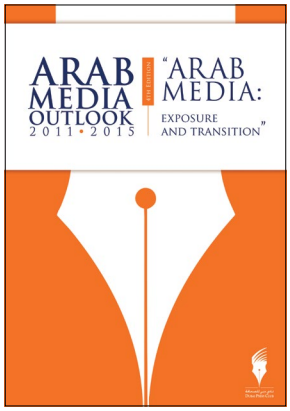

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Contacts at Deloitte Touche Tohmatsu Limited (DTTL) and its member firms

Global TMT

Jolyon Barker
Managing Director
Global Technology, Media & Telecommunications
Deloitte Touche Tohmatsu Limited
+44 20 7007 1818
jrbarker@deloitte.co.uk

Eric Openshaw
Global Technology Leader
Deloitte Touche Tohmatsu Limited
+1 714 913 1370
eopenshaw@deloitte.com

Ed Shedd
Global Media & Entertainment Leader
Deloitte Touche Tohmatsu Limited
+44 20 7007 3684
eshedd@deloitte.co.uk

Phil Asmundson
Global Telecommunications Leader
Deloitte Touche Tohmatsu Limited
+1 203 708 4860
pasmundson@deloitte.com

Americas

Alberto Lopez Carnabucci
Argentina
+54 11 4320 2735
alopezcarnabucci@deloitte.com

Marco Antonio Brandao
Simurro
Brazil
+55 11 5186 1232
mbrandao@deloitte.com

Robert Nardi
Canada
+1 416 393 5203
rnardi@deloitte.ca

Fernando Gaziano
Chile
+56 2 729 8783
fpgaziano@deloitte.com

Nelson Valero Ortega
Colombia
+571 546 1810
nvalero@deloitte.com

Gilles Maury
Costa Rica
+506 2246 5000
gmaury@deloitte.com

Ernesto Graber
Ecuador
+593 2 2 251319 ext 246
egraber@deloitte.com

Francisco Silva
Mexico
+52 55 5080 6310
fsilva@deloittemx.com

Domingo Latorraca
Panama
+507 303 4100
dlatorraca@deloitte.com

Fernando Covecino
Peru
+5112118588
fcovecino@deloitte.com

Eric Openshaw
United States
+7149131370
eopenshaw@deloitte.com

Adriana Berlingeri
Uruguay
+598 2 916 0756 x 6106
aberlingeri@deloitte.com

Johan Oliva
Venezuela
+58 212 206 8886
joholiva@deloitte.com

Europe, Middle East and Africa

Luc Van Coppenolle
Belgium
+32 3 800 8905
lvancoppenolle@deloitte.com

Ivan Luzica
Central Europe
+421258249266
iluzica@deloittece.com

Olga Tabakova
CIS and its Russian office
+7 495 787 0600 ext 2326
otabakova@deloitte.ru

Christian Sanderhage
Denmark
+4523422924
csanderhage@deloitte.dk

Jukka-Petteri Suortti
Finland
+358 20 755 5561
jukka-petteri.suortti@deloitte.fi

Ariane Bucaille
France
+33 1 5561 6484
abucaille@deloitte.fr

Andreas Gentner
Germany
+49711165547302
agentner@deloitte.de

Joan O'Connor
Ireland
+353 1 4172476
joconnor@deloitte.ie

Alberto Donato
Italy
+39 064 780 5595
adonato@deloitte.it

Nikhil Hira
Kenya
+254 204 230 377
nhira@deloitte.co.ke

George Kioes
Luxembourg
+352 451 45 2249
gkioes@deloitte.lu

Santino Saguto
Middle East
+971 (4) 369 8999
ssaguto@deloitte.com

Daan Witteveen
Netherlands
+31 88 288 0236
dwitteveen@deloitte.nll

Halvor Moen
Norway
+47 23 27 97 85
hmoen@deloitte.no

Joao Luis Silva
Portugal
+351 210 427 635
joaolsilva@deloitte.pt

Mark Casey
Southern Africa
+27 11 806 5205
mcasey@deloitte.co.za

Jesus Navarro
Spain
+34 91 514 5000 ext 2061
jenavarro@deloitte.es

Erik Olin
Sweden
+46752463116
eolin@deloitte.se

Franco Monti
Switzerland
+41 44 421 6160
frmonti@deloitte.ch

Tolga Yaveroglu
Turkey
+90 212 366 6080
tyaveroglu@deloitte.com

Ed Shedd
United Kingdom
+44 20 7007 3684
eshedd@deloitte.co.uk

Asia Pacific

Stuart Johnston
Australia
+61 3 9671 6518
stujohnston@deloitte.com.au

William Chou
China
+86 10 8520 7102
wilchou@deloitte.com.cn

Hemant Joshi
India
+91 20 6624 4704
hmjoshi@deloitte.com

Parlindungan Siahaan
Indonesia
+62 21 2992 3100 ext.31555
psiahaan@deloitte.com

Ichiro Nakayama
Japan
+81 90 9804 4256
ichiro.nakayama@tohmatsu.co.jp

John Bell
New Zealand
+64 9 303 0853
jobell@deloitte.co.nz

John Goeres
South East Asia
+65 6232 7118
jgoeres@deloitte.com

Ricky Lin
Taiwan
+886 3 5780899
rickylin@deloitte.com.tw

Shariq Barmaky
Singapore
+65 6530 5508
shbarmaky@deloitte.com

Sung Il Chung
South Korea
+82-2-6676-3668
sungchung@deloitte.com

Weerapong Krisadawat
Thailand
+66 (0) 2676 5700
wkrisodawat@deloitte.com

Deloitte in the Middle East

ME Regional office
Gefinor Center, Block D
Clemenceau Street
P.O. Box 113-5144
Beirut, Lebanon
Phone +961 (0) 1 748 444
Fax +961 (0) 1 748 999

Consulting
Regional office
Deloitte & Touche (M.E.)
Building 3, Emaar Square
Downtown Dubai
P.O. Box 4254 Dubai,
United Arab Emirates
Phone +971 (0) 4 376 8888
Fax +971 (0) 4 376 8899

Enterprise Risk Services
Regional office
Deloitte & Touche (M.E.)
Building 3, Emaar Square
Downtown Dubai
P.O. Box 4254 Dubai,
United Arab Emirates
Phone +971 (0) 4 376 8888
Fax +971 (0) 4 376 8899

Financial Advisory Services
Regional office
DIFC, Currency House
Building 1
P.O. Box 112865
Dubai, United Arab Emirates
Phone +971 (0) 4 506 4700
Fax +971 (0) 4 327 3637

Tax Services
Regional office
Currency House
Building 1
P.O. Box 282056
Dubai, United Arab Emirates
Phone +971 (0) 4 506 4700
Fax +971 (0) 4 327 3637

The Deloitte ME Islamic Finance Knowledge Center (IFKC)
Al Zamil Tower. Government Avenue,
Manama, Kingdom of Bahrain
Phone +973 (0) 1 721 4490 Ext 2018
Fax +973 (0) 1 721 4550

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Bahrain
Manama
Al Zamil Tower
Government Avenue
P.O. Box 421
Manama, Kingdom of Bahrain
Phone +973 (0) 1 721 4490
Fax +973 (0) 1 721 4550

Egypt
Cairo
95 C, Merghany Street,
Heliopolis 11341, Cairo, Egypt
Phone +20 (0) 2 2290 3278
Fax +20 (0) 2 2290 3276

Alexandria
Madinet El Sayadla
Building No 10,
Smouha, Alexandria
Phone +20 (0) 3 426 4975
Fax +20 (0) 3 426 4975

Iraq
Erbil
Vital Village, No. 42
Erbil, Iraq
Phone +964 (0) 66 257 6200

Jordan
Amman
Jabal Amman,
190 Zahran Street
P.O. Box 248
Amman 11118, Jordan
Phone +962 (0) 6 550 2200
Fax +962 (0) 6 550 2210

Kuwait
Deloitte & Touche Al-Fahad Al-Wazzan & Co.
Kuwait City
Dar Al-Awadi Complex
Ahmed Al-Jaber Street, Sharq
P.O. Box 20174
Safat 13062, Kuwait
Phone +965 2240 8844
Fax +965 2240 8855

Lebanon
Beirut
Arabia House,
131 Phoenicia Street
P.O. Box 11-961
Riad El-Solh, Beirut
1107 2060 Lebanon
Phone +961 (0) 1 364 700
Fax +961 (0) 1 367 087

Libya
Tripoli
Tripoli Tower
P.O. Box 93645
Tripoli, Libya
Phone +218 (0) 92 370 1049

Oman
Muscat
MBD Area
Muscat International Center
P.O. Box 258, Ruwi
Postal Code 112
Sultanate of Oman
Phone +968 (0) 2481 7775
Fax +968 (0) 2481 5581

Palestinian Territories
Ramallah
Al Mashreq, Insurance Building
P.O. Box 447
Ramallah, Palestinian
Controlled Territories
Phone +970 (0) 2 295 4714
Fax +970 (0) 2 298 4703

Qatar
Doha
Al Ahli Bank Building
Sheikh Suhaim Bin Hamad Street
P.O. Box 431 Doha, Qatar
Phone +974 (0) 4434 1112
Fax +974 (0) 4442 2131

Saudi Arabia
Deloitte & Touche
Bakr Abulkhair & Co.
Riyadh
Prince Turki Bin Abdullah
Al-Saud Street
Sulaimania Area
P.O. Box 213
Riyadh 11411, Saudi Arabia
Phone +966 1 282 8400
Fax +966 1 282 8428

Al Khobar
ABT Building, Al Khobar
P.O. Box 182
Dammam 31411, Saudi Arabia
Phone +966 (0) 3 887 3937
Fax +966 (0) 3 887 3931

Jeddah
Saudi Business Center
Madinah Road
P.O. Box 442
Jeddah 21411, Saudi Arabia
Phone +966 (0)1 2 657 2725
Fax +966 (0)1 2 657 2722

South Sudan
Juba
Deloitte Complex, Plot No.160,
Block 3K-South
2nd Class Thong Ping
Residential Area
P.O Box 511, Juba,
Republic of South Sudan
Phone +211 92 000 1024

Syria
Damascus
9 Fardos Street
P.O. Box 12487
Damascus, Syria
Phone +963 (0) 11 221 5990
Fax +963 (0) 11 222 1878

Rawda
38 Rawda Street
P.O. Box 12487
Damascus, Syria
Phone +963 (0) 11 331 1212
Fax +963 (0) 11 332 2304

United Arab Emirates
Abu Dhabi
Al Sila Tower
Sowwah Square
P.O. Box 990
Abu Dhabi,
United Arab Emirates
Phone +971 (0) 2 408 2424
Fax +971 (0) 2 408 2525

Dubai
Deloitte & Touche (M.E.)
Building 3, Emaar Square
Downtown Dubai
P.O. Box 4254
Dubai, United Arab Emirates
Phone +971(0) 4 376 8888
Fax +971(0) 4 376 8899

Fujairah
Al-Fujairah
Insurance Co. Building
P.O. Box 462
Fujairah, United Arab Emirates
Phone +971 (0) 9 222 2320
Fax +971 (0) 9 222 5202

Ras Al-Khaimah
Ras Al-Khaimah, Insurance
Building, Al-Nakheel,
Ras Al-Khaimah, UAE
P.O. Box 435
Ras Al-Khaimah,
United Arab Emirates
Phone +971 (0) 7 227 8892
Fax +971 (0) 6 574 1053

Sharjah
Corniche Plaza 2,
Al Buhairah Corniche
P.O. Box 5470
Sharjah, United Arab Emirates
Phone +971 (0) 6 574 1052
Fax +971 (0) 6 574 1053

Yemen
Sana'a
Sana'a Trade Center Eastern
Tower, Algeria Street
P.O. Box 15655
Sana'a, Yemen
Phone +967 (0) 1 448 374
Fax +967 (0) 1 448 378

For inquiries on Mauritania, please contact the ME regional office.

Endnotes

1 Deloitte's estimate of device sales and average selling prices for these five categories over the period 2000-2018 is based on actual, forecast and in some cases interpolated data. These were then used to produce annual revenue figures which were then summed. 2000-2012 numbers are actual or interpolated figures. 2013 numbers are based on year-to-date figures up until Q3, combined with industry forecasts and Deloitte estimates. The 2014-2018 estimates are a combination of published industry forecasts and Deloitte estimates. Sources used include, but are not restricted to, IDC, Gartner, Canalys, IHS, and DisplaySearch.

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421 There are multiple degrees of protection available. A case providing protection against minor shocks, dust and moisture costs in the region of $50. For $99, a considerable degree of protection is available, providing resistance to: prolonged submersion in water; falls on to hard surfaces from three meters; two tons of pressure. However this degree of protection would not be required for all field force environments. See: iPhone 5 Armor Series Case, Otterbox, 19 December 2013: http://www.otterbox.com/iPhone-5-Armor-Series-Case/apl10-iphone-5,default,pd.html?dwvar_color=V5

422 For examples of companies operating on this basis, see: ServiceMax Product Editions, ServiceMax, 19 December 2013: http://www.servicemax.com/editions.html

423 There are several varieties of toughened glass available. There are over one thousand models that have ever been produced with some form of resilient glass. Each generation of glass brings significant improvements in strength. For example Corning's Gorilla Glass 3 is "up to three times more damage resistant" than Gorilla Glass 2. For more information, see: CORNING® GORILLA® GLASS 3 WITH NATIVE DAMAGE RESISTANCE™, Corning Gorilla Glass, 19 December 2013: http://www.corninggorillaglass.com/Gorilla-Glass . Integrated cellular mobile is preferable, but not mandatory. A device, such as a Wi-Fi-only tablet, can use a nearby smartphone's data connection by a process called tethering, which sets up a connection via Bluetooth between the device and the smartphone. This typically consumes more of the device's power than if cellular mobile is built-in. So if frequent data transmission is required, built-in cellular mobile is preferable.

424 Smart phones, Worldwide, unit forecasts by OS vendor, 2012 – 2017, Canalys, 19 December 2013: http://www.canalys.com/chart/index.html#display-77 ; IDC Forecasts Worldwide Tablet Shipments to Surpass Portable PC Shipments in 2013, Total PC Shipments in 2015, IDC, 28 May 2013: http://www.idc.com/getdoc.jsp?containerId=prUS24129713 ; Tablets, Worldwide, unit forecasts by OS vendor, 2012 – 2017, Canalys, 19 December 2013: http://www.canalys.com/chart/index.html#display-84

425 In 2012 there were an estimated 21 million rugged mobile devices sold. See: Insanely durable smartphone ... from Caterpillar?, CNN Money, 22 May 2013: http://money.cnn.com/2013/05/22/technology/mobile/caterpillar-phone/

426 According to one survey, the average smartphone owner spends two hours a day actively using their device. For more information, see: Smartphones hardly used for calls, Telegraph, 29 June 2012: http://www.telegraph.co.uk/technology/mobile-phones/9365085/Smartphones-hardly-used-for-calls.html

427 Why Apple Bought $578M Worth Of Sapphire In Advance, TechCrunch, 8 November 2013: http://techcrunch.com/2013/11/08/why-apple-bought-578m-worth-of-sapphire-in-advance /.For a video showing the resilience of sapphire glass, see: Sapphire Screen vs. Gorilla Glass: Scratch Test (Video), Pocketnow, 27 February 2013: http://pocketnow.com/2013/02/27/sapphire-screen-scratch . Sapphire glass already features in very high-end smartphones, priced at several thousand dollars per unit. However at the time of writing it was not available in mainstream devices.

428 For an explanation on how this technology works, see: How supersensitive screens get touch-y (Smartphones Unlocked), 8 June 2013: http://reviews.cnet.com/8301-6452_7-57586983 /how-supersensitive-screens-get-touch-y-smartphones-unlocked/l; For more information on devices, see: Vertu's new Constellation is its second Android phone, and you still can't afford it, Engadget, October 2013: http://www.engadget.com/2013/10/01/vertu-constellation-android/

429 For more information on the range of water-resistant smartphones available, see: Waterproof phones you can take to the beach (roundup), CNET, 6 August 2013: http://reviews.cnet.com/8301-6452_7-57597025/waterproof-phones-you-can-take-to-the-beach-roundup /. Each model uses a slightly different approach to sealing the device, each of which has its pros and cons. The tolerance to immersion of each device varies. For information on water-resistant tablets, see: Sharp touts new water-resistant Windows 8 tablet, CNET, 30 September 2013: http://news.cnet.com/8301-1035_3-57605288-94/sharp-touts-new-water-resistant-windows-8-tablet/ ; The lightest, slimmest and water-resistant-est tablet on the market, Techradar, 12 August 2013: http://www.techradar.com/reviews/pc-mac/tablets/sony-xperia-tablet-z-1133193/review

430 For more information on sandboxing, see: MDM: To Sandbox Or Not To Sandbox?, Information Week, 1 November 2011: http://www.informationweek.com/security/risk-management/mdm-to-sandbox-or-not-to-sandbox/d/d-id/1101060?

431 In some jurisdictions, if the device is sold below market price, it may be considered as a benefit-in-kind and therefore taxable.

Researched and written by:

Paul Lee
Director, Head of Global TMT Research
Deloitte Touche Tohmatsu Limited
+44 (0) 20 7303 0197
paullee@deloitte.co.uk

Duncan Stewart
Director of TMT Research
Canada
+1 416 864 3536
dunstewart@deloitte.ca

Adil Parvez
Consultant, TMT
Deloitte & Touche (M.E.)
+971 (0) 4 376 8601
aparvez@deloitte.com

Contributors:

Emmanuel Durou
Director, TMT
Deloitte & Touche (M.E.)
edurou@deloitte.com

Gareth Pereira
Senior Manager, TMT
Deloitte & Touche (M.E.)
garpereira@deloitte.com

Caitlyn Chetty
Business Analyst, TMT
Deloitte & Touche (M.E.)
cchetty@deloitte.com

Marketing contacts:

Amanda Goldstein
TMT Marketing Leader
Deloitte Touche Tohmatsu Limited
+1 212 436 5203
agoldstein@deloitte.com

Karen Hogger
EMEA TMT Marketing Manager
Deloitte Touche Tohmatsu Limited
+44 (0) 20 7007 5405
khogger@deloitte.co.uk

Patrick Mallouh
Supervisor, ME Brand & Communications
Deloitte & Touche (M.E.)
+961 1 748 444
pmallouh@deloitte.com