TUNISIA

FROM REVOLUTIONS TO INSTITUTIONS

By Zack Brisson & Kate Krontiris

*info*Dev

THE WORLD BANK

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Innovate. Connect. Transform.

TUNISIA:
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إذا الشعب يوما أراد الحياة

فلا بدّ أن يستجيب القدر

ولا بد لليل أن ينجلي

ولا بد للقيد أن ينكسر

FOREWORD
A Welcome from *info*Dev

The whirlwind transformations of 2011 in the Middle East and North Africa have grabbed the world's attention. Beginning in a small Tunisian city, the forceful calls for dignity and opportunity rapidly spread throughout the region and the world.

During a visit in May 2011 to pledge support, World Bank Group President Robert B. Zoellick emphasized that "Tunisians want a break from the past: more accountability, transparency, equity, attention to disadvantaged regions, and broad societal participation. They want jobs, business opportunities, and better public services." The international community must help Tunisia realize these hopes, and this report is intended in that spirit.

The report is part of a larger project supported by UKaid on the role of ICTs in post-conflict reconstruction. Because poverty is both a cause and an effect of conflict, the World Bank Group has committed significant resources to supporting post-conflict states.

Post-revolution Tunisia was included in the study because of its ability to complement the more "traditional" post-conflict case studies *info*Dev has commissioned for Afghanistan, Liberia, Rwanda, Sri Lanka and Timor Leste. Once these reports are finalized in the coming months, *info*Dev hopes to synthesize lessons learned in order to provide recommendations to policy-makers and donors who seek to effectively utilize ICTs in post-conflict environments.

In the World Economic Forum's Global Information Technology Report 2010-2011, Tunisia ranked 35th globally in networked readiness, above its neighbors in North Africa.

However, the detailed analysis in the pages that follow suggest that there is much more that can be done to use ICTs to create a dynamic economy, a fully accountable government, and greater social inclusion. Understanding this wider context—and the challenges and opportunities it presents—will be essential to Tunisia's future success.

Valerie D'Costa
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EXECUTIVE SUMMARY

In the wake of the revolution, Tunisian society is currently undergoing a significant transformation. In late 2011, the country's first representative government in more than three decades was formed, as the Constituent Assembly was seated. Hundreds of legitimate candidates ran in an election that was free, fair, and enjoyed nearly 90 percent participation by eligible voters. "Tunisia: From Revolutions to Institutions," published one year after the exile of Ben Ali, seeks to describe the factors driving this transformation, examining how specific elements of society have changed—or not changed—in the post-revolutionary period.

Information and communication technologies (ICTs), which played a central role in the lead-up to the revolution as well as the revolution itself, have continued to influence rapid changes in the past year. This report charts the application of these technologies by citizens, civil society, entrepreneurs, and government stakeholders. It also identifies openings to capitalize on technology's ability to improve governance, expand economic opportunity, and encourage social cohesion. Specifically, the findings are targeted at providing insights on the following critical research questions:

○ How can critical social, civic, and governmental institutions use ICTs to improve organizational efficiency, public engagement, service delivery, and overall accountability?

○ How should policymakers and investors structure and prioritize technology initiatives to spur economic development and technological innovation?

○ How can the use of ICTs among citizens, media, and civic institutions encourage social cohesion and build social resilience?

In order to answer these questions, the researchers took an applied ethnographic approach, creating a critical point-in-time snapshot of a wide swath of Tunisian society. In-depth, in-person interviews were a central tool of investigation. The research sample included over 100 Tunisians from nine cities and towns and dozens of institutions and companies. The investigation sought to understand how different citizens view their lives, limitations, and opportunities in this post-revolutionary period. The reader will find those citizens' voices represented in these pages.

Over the course of these interviews, and in conjunction with survey data analysis and academic and expert consultations, five critically important issue areas were identified for special focus:

1. **Regional disparity remains a central challenge to social cohesion. Absent a serious and sustained government intervention, unrest may continue.**

Interior Tunisian provinces are isolated from the coastal and urban hubs of economic activity by distance, infrastructure, and lack of public and private investment. The widespread economic distress in the interior regions was enough to spark the country's revolution. After decades of neglect by the previous regime, interior citizens today seek the same economic opportunity, basic health care, and tools for self-sustenance as their coastal and urban counterparts.

2. **Small and medium-sized enterprises (SMEs) are poised for growth, so long as significant and systemic investments are made in business financing, digital infrastructure, and workforce development.**

SMEs have the potential to rapidly grow a newly opened Tunisian economy. To encourage economic expansion and job growth, particularly in technology-related sectors, critical constraints must be lifted; these include an elevated cost of doing business, government control of critical markets, and skill deficiencies in the workforce.

3. **Tunisia's higher education system has a strong foundation, but to flourish, it requires a critical re-examination of pedagogy, investments in infrastructure, and a decoupling from government patronage systems.**

While the Tunisian higher education system has been praised for its population coverage and regional sophistication, the Ben Ali government significantly overstated its strengths. Stakeholders throughout the higher education system, as well as associated actors, such as business leaders, noted significant gaps in the quality of curriculum. In addition, the research surfaced issues around quality of instruction and infrastructure that must be addressed for Tunisia to become internationally competitive in advanced sectors.

4. **The desire to participate politically is widespread. Citizens and politicians alike are embracing a variety of new tools, platforms, and approaches to engage with one another. Yet despite these positive steps, challenges remain, particularly with regards to the caliber of citizen political literacy.**

The present period is one of immense political opportunity. Tunisians' increasing engagement in their political system is being expressed through an explosion of political media, new political parties, and other forms of participation. National elections in October 2011 were widely celebrated as free and fair, and enjoyed an extraordinarily high turnout. Yet after generations of authoritarian rule, many people are struggling with the mechanics of political participation. The explosion of new information and media is confounding the efforts of new voters who are looking for reliable sources of political intelligence.

5. **Online communities that grew under the authoritarian state are providing the foundation for a new civil society. Just as importantly, many of these communities are full of would-be entrepreneurs, drawn together by their skills and interest in advanced technologies.**

ICTs have proven their capacity to extend the public square in contexts all over the world; analyses of the Tunisian experience frequently state that technology was central to the revolution. Before the revolution, the online communities that grew under the authoritarian state were ready sources of political organization and cooperation. Facebook served as a central hub for political dialogue and additional online and social media tools did much to strengthen tight-knit community bonds that were already at the heart of political participation.

The world is looking to the Tunisian experience today as a microcosm and barometer of a larger trend—namely, an increasing demand for fairness and dignity for people long-deprived of the notions. Being the first among many nations to have experienced similar uprisings in 2011, Tunisia is in a unique position to demonstrate to itself and to the world how a society can evolve from an authoritarian regime to a representative system. In highlighting possible opportunities for successful investment, as well as the needs, aspirations, and reflections of the Tunisian people, "Tunisia: From Revolutions to Institutions" aims to provide a holistic and replace with citizen-driven roadmap for the international community to tailor its support of this evolving society.

INTRODUCTION
Why Tunisia Matters

The year 2011 was marked by profound changes to the relationships between governments and their citizens. Popular uprisings launched in the Middle East and North Africa region spread to an estimated 16 countries and captured the attention of the entire world. While the success of these uprisings has been varied, the overall trend points toward fundamental and sweeping changes to the systems, structures, and frameworks we depend on to govern ourselves.

What guidance can developments in a small country like Tunisia provide about these worldwide shifts?

The English cybernetics pioneer W. Ross Ashby might offer the "law of requisite variety." [1] Introduced in 1956, the law of requisite variety states that, for any system to achieve stability, the controlling mechanism must be at least as complex as the governed body. In Ashby's words, "Only variety can destroy variety." [2]

Take, for example, computer security. A hacker can use a wide variety of methods to infiltrate a computer system; thus, a computer security specialist's available protection measures must at least match that variety in order to effectively address the potential infiltration methods. As a hacker's menu of methods continues to expand, so too must the security specialist's menu of responses. A failure of the security specialist to diversify will result in a compromised system.

The law of requisite variety has been manifested in biological, chemical, and computational scenarios. Today, it is guiding the social shifts that are occurring in an increasingly complex and interconnected world. If a system increases in complexity to the point that it has greater variety than its controlling mechanism—whether it is a computer hacker facing a security specialist or a population subject to government regulation—then a phase change must occur. If the controlling mechanism does not become more complex, systemic regulation will fail.

Tunisia is a clear and coherent example of how an increasingly complex society contributed to the failure of an authoritarian government to maintain control. During more than 20 years of leadership under President Zine el-Abidine Ben Ali, the Tunisian governing body was powerful and pervasive, but it was also largely static in nature. Ensconced in a robust grid of personal power networks, the ruling elite had little incentive to evolve its patterns of behavior and control.

Simultaneously, a broader change occurred among the Tunisian populace through the spread of information and communication technology (ICT). Satellite televisions, first introduced in the early 1990s, increased citizen awareness of social, political, and economic conditions elsewhere in the world—and of the inequality at home. Mobile networks, expanding exponentially in penetration since the late 1990s, increased connectedness among a population that had been somewhat atomized by distance and levels of educational attainment, as well as by communal, regional, and cultural rifts. The Internet, when it first exploded among Tunisian consumers in the early 2000s, allowed for widespread exposure to foreign ideas; it also offered a platform for a digital public square that had more variety than the government could easily control.

As a result, the Tunisian populace in 2011 was more connected—more complex—than when the Ben Ali government first came to power. Connectivity expanded awareness of economic inequality and increased levels of popular frustration; it also strengthened citizens' ability to organize and demonstrate. In many ways, the governing elite did not evolve in response to these changes; the structures, tools, and processes of governance adapted to new ICTs slowly and with difficulty.

Thus, when a fruit vendor in Sidi Bouzid set himself on fire, he incited a phase change that was unexpected, but long in development. The rapid pace of the shifts that occurred during the Tunisian revolution proved how powerful increased connections among a society can be. The response of the Ben Ali government—delayed, disconnected from the populace, and ineffectual—showed the extent to which it had failed to develop along with its society; it also showed how old forms of control can fail when faced with greater variety.

A photo from early January 2011 vividly demonstrates this point: In a delayed attempt to quiet the demonstrations, President Ben Ali visited the hospital where Mohammed Bouazizi, the fruit vendor whose self-immolation incited the revolution, was receiving treatment. The government released a photograph of Ben Ali at Bouazizi's bedside—an old-fashioned attempt at propaganda. In this respect, the photograph is a spectacular failure. Bouazizi, bandaged beyond recognition, is unmoved by Ben Ali's visit; Ben Ali looks equally unmoved. The most powerful emotion visible in the photograph is contempt: three hospital staff, their arms folded, stand watching Ben Ali, their faces set in deep disapproval.[3]

While the government once may have successfully used such a photograph to reassert control, now, in the face of the Tunisian people's evolution and greater connectedness, the photograph serves instead as proof of the phase change occurring at that very moment: even those in the personal presence of Ben Ali are unconvinced of his control. Days later, Ben Ali would leave the country in exile.

Today, Tunisians are wrestling with how to wield the power of their increased connectivity to build a society that is more responsive to the needs of citizens and more capable of addressing the economic, political, and technological complexities of the modern world. The ability of the newly formed government to provide health care, economic development, justice processes, and other services demanded by its people will depend on its ability to match their variety and connectedness. The opportunities and setbacks faced by the new government, and its success in addressing them, will tell us much about the future of governance in a world that grows more complex every day.

The desire to understand the path Tunisians face and the role ICTs play in their past and future, led *info*Dev to commission this research. At Reboot, we were eager to explore the repercussions of these recent, rapid changes to the structures, systems, and frameworks of governance. Although the world's increasing complexity can be challenging to manage, we believe that it empowers citizens in a way that has the potential to lead to a more just, equitable, and inclusive global society. We are excited to share evidence of this with policymakers, while identifying opportunities for sound investments to further encourage social progress.

We hope the findings in this publication do justice to the experiences and perspectives that so many Tunisians were willing to share with our team. We are grateful for their willingness to let a group of outsiders into the transformative period that is undoubtedly their own, but equally important for the world.

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Section 1
OVERVIEW
From Revolutions to Institutions

"It has always been my dream to go to Silicon Valley. So many great people have come from that place. I wanted to see it, visit the companies, live there! But one day, I realized that if all the talented people in Tunisia went to Silicon Valley, there would be nobody left to guide this country into its new life. So I decided to bring Silicon Valley to Tunisia."

17-year-old Tunisian 'hacktivist', explaining his motivation to organize a TEDx event for youth in Tunis
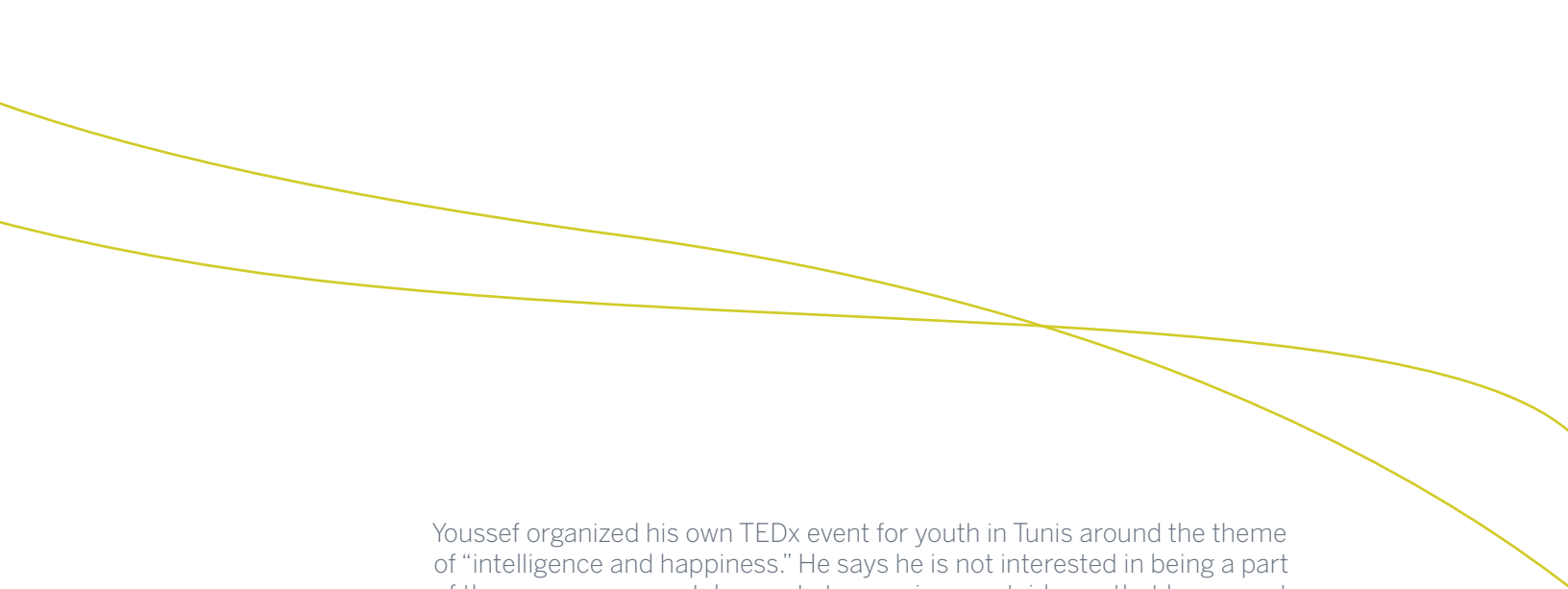
In January 2011, Tunisia shocked the world when weeks of popular protest led to the ouster and exile of President Zine el-Abidine Ben Ali after a 23-year-long rule. In a region long governed by strong autocratic leaders, the overthrow of Ben Ali was a landmark event—an undeniable triumph of popular will.

In the time since the revolution, positive steps have been made toward establishing a new social contract. The Constituent Assembly was elected through free and fair elections that enjoyed nearly 90 percent turnout among eligible voters. The political road has been marked by deliberation and compromise, and leaders from diverse institutions have found ways to share power and build bridges with international partners.

Simultaneous with the change in government, the early movements of a strong civil society are taking shape. New technologies, which played a critical role in the revolution, are now becoming indispensable pillars of activism and civic participation. A vibrant community of activists, especially those organizing online, is working to amplify the people's voices as a post-revolutionary society develops.

One visible representative of this new civil society is Youssef, a 17-year-old "hacktivist" (a political activist who protests through the use of computer networks). He was jailed during the revolution for speaking against the government, and tortured during his imprisonment by Ministry of the Interior officials[1].

Youssef's experience is distressing evidence of citizen oppression under Ben Ali. Yet his story today is optimistic and powerful testimony to the possibilities for Tunisia's future. An active participant in the local TEDx community (a grassroots branch of the international ideas conference),

Youssef organized his own TEDx event for youth in Tunis around the theme of "intelligence and happiness." He says he is not interested in being a part of the new government; he wants to remain an outsider so that he can put pressure on the new leaders to stay true to their morals.

Like Youssef, the 55-year-old community organizer Sadya is both a witness to the oppression of the Ben Ali regime and a living example of how Tunisians are demanding and embracing their new, expanded roles in society. Sadya, a teacher, is the daughter of a saffron farmer in an impoverished central, rural region. For years, she has been helping families less fortunate than her own navigate complicated government systems to receive medical care or financial assistance. Forced to keep her organizing underground (the Ben Ali regime defined her activities as Islamist political activism, and therefore illegal), Sadya used tools like Facebook to establish resource links with Tunisian supporters abroad. At the first hint of revolution, Sadya was able to leverage these online networks to mobilize demonstrators and direct resources. Today, she is an elected representative of Ennahda, the main Islamist party, and hopes to use her political status to gain the support and investments that her community desperately needs.

Sadya and Youssef are just two examples of the entrepreneurialism, confidence, and optimism prevalent in Tunisia today. Under the Ben Ali regime, both were frustrated and forced into 'underground' behavior, along with citizens from many other demographics. Now, Sadya, Youssef, and millions of other Tunisians are actively building a more resilient, fair, and vibrant society—and a new role for themselves in that society. Buoyed by the confidence of the revolution, citizens continue to demand recognition as active participants in their own future, both from their evolving government and the international community.

Yet for all this deserved optimism, there is still much work to be done. The political situation has improved, but unemployment, lack of quality health care services, and other sources of economic and social frustration that inspired the revolution still remain. Additionally, many government institutions from the Ben Ali regime continue to operate in their old modes; so far, too few changes have been made to reflect the ideals of openness and accountability demanded by the Tunisian people.

Tunisia is rich in opportunity, but these significant challenges must be addressed before the country can reach its full potential. This report will identify and explain in detail these potential hurdles and discuss specific opportunity areas for inclusive growth and development. In doing so, the authors hope the international community will be better able to target its support of Tunisia in ways that are representative of popular interests and responsive to its most critical social and economic challenges.

TIMELINE
of the Revolution

For many observers, the Tunisian revolution began on December 17, 2010. The forces of discontent that would eventually propel President Zine el-Abidine Ben Ali out of power, however, had been building long before Mohammed Bouazizi set himself on fire in front of the governor's office in Sidi Bouzid. Some scholars, including Hayib Abeb of the American University in Cairo, trace the revolutionary process as far back as 2008. This timeline is an attempt to frame the events of the revolution in a broader historical context.

DATE	EVENT	DEMANDS
Jan 5, 2008	Sit-in of General Tunisian Labor Union in Gafsa over unfair recruitment policies of a government-owned company. Sit-in turns violent.	Equitable access to employment opportunities.
Feb 2009	Leaders of Gafsa sit-in sentenced to eight years in prison. Trial exposes systematic torture, maltreatment, and corruption of justice system.	Greater transparency and accountability in the justice system.
Aug 2010	Riots break out after the closure of Tunisia-Libya border by the Trabelsis, the powerful family of the Tunisian First Lady, who sought to control informal trade between the countries. Rioters arrested, tortured, and given heavy sentences.	Greater economic stability, independent from elite interests.
Dec 17, 2010	After police and municipal officials prevent him from working as an itinerant fruit seller, Mohammed Bouazizi self-immolates in Sidi Bouzid.	An end to the disrespect and abuse of citizens by Tunisian authorities.
Dec 18, 2010	Demonstrations erupt across Tunisia over high prices and unemployment. The Ben Ali and Trabelsi families are called "thieves". The government begins a violent crackdown, which continues for three weeks.	Economic and political accountability of the regime.
Dec 28, 2010	President Ben Ali says he is "worried" and "concerned" by events in Sidi Bouzid, denouncing a "political instrumentalization".	
Jan 8, 2011	A two-day massacre in Thala and Kasserine reinforces national solidarity and the radicalization of the movement, which now takes a clear national dimension.	

DATE	EVENT	DEMANDS

DATE   **EVENT**   **DEMANDS**

Jan 9, 2011 — Ben Ali delivers a speech insisting on an immediate end to the troubles that are affecting public order, by whatever means necessary.

Jan 10, 2011 — Demonstrations reach Tunis.   *Removal of Ben Ali. Main slogan: Ben Ali: dégage!* (Ben Ali, get out!)

Jan 12, 2011 — Major demonstration in Sfax, the country's second city. Slogans are openly political, calling for freedom and democracy.

Jan 13, 2011 — Speech of Ben Ali announcing total opening up of Internet connections and ending of restrictions to web usage.

Jan 14, 2011 — Following an unsettling speech by Ben Ali, huge demonstrations take place in in front of the Ministry of the Interior in Tunis.

Jan 17, 2011 — Ben Ali leaves the country, seeking his first refuge.

A new government, very similar to the last one of Ben Ali, is announced. It is led by Mohamed Ghannouchi, Ben Ali's prime minister since 1999. Leaders of Ben Ali's RCD party are in key ministerial positions.

Jan 21, 2011 — Emergence of 'freedom caravan' to put pressure on the new government and a continuous six-day sit-in in Tunis' Kasbah Square.   *Resignation of the new government.*

Jan 27, 2011 — Resignation of all Constitutional Democratic Rally (RCD) ministers from government (except Ghannouchi, who resigns only from RCD). New government composed of Ghannouchi supporters.

Feb 20, 2011 — Sit-in in Kasbah Square lasting 12 days calls for the resignation of second Ghannouchi government, suspending two legislative assemblies and electing a constituent assembly.

Mar 4, 2011 — July 24 is set as the date for election of a constituent assembly whose role is to write a new constitution.

TECHNOLOGY:
A Core Enabler of Progress

In a country with many human resources to harness, there may be no greater socioeconomic opportunity than the expanded application of information and communication technologies (ICTs).

Many, if not most narratives of recent Tunisian history have rightfully highlighted the role these technologies played in facilitating a successful revolution: for years, ICTs helped spread the narratives of despair and frustration of communities ignored by the government and media, increasing awareness of inequality throughout the country. During the revolution, ICTs were relied upon to spread news of popular demonstrations when mainstream media outlets refused to cover them. They also provided easy ways to mobilize and coordinate protestors.

Certainly, these same tools were used to monitor and control the population in the period before the revolution. Yet the popular triumph of the period shows that methods of repression were inadequate at containing popular will.

Aforementioned activists Sadya and Youssef—despite their vast differences in generation, region, and relationship to the government—both say that mobile phones, Facebook, and other digital tools are critical to their work. Their experience is reflected worldwide: due to decreased costs of ownership and diffusion of telecommunications networks globally, ICTs have become critical tools for communicating, mobilizing, information-sharing, educating, and market-making.

As technology changes, it creates an exponentially growing number of connections between people, organizations, and ideas, fundamentally changing the way we live, work, and organize our societies. Tunisia's experience is one example of how these technologically driven changes can upend a long-standing status quo.

Yet the power of connectivity is not equally available to all Tunisians. In the interior provinces, citizens are far less likely than their coastal counterparts to use mobile phones or social networks, or have access to the Internet or computers. This technological inequality is one symptom of the systemic inequality in Tunisia. For decades, the Ben Ali government neglected to invest in critical infrastructure and industries in many regions: As a result, residents in the interior today still lack robust transportation networks, convenient access to health care, and equitable economic opportunities.

The indignity of this disparity sparked the revolution, and continues to threaten stability and growth in the country today. In Section 2, "Developing an Inclusive Tunisia"

this report examines the roots of inequality in the Ben Ali regime, the extent to which progress has been made in the period since the revolution, and the opportunities and hurdles this disparity still presents to economic development, social cohesion, and transformational governance.

In spite of these varied rates of access, ICTs are undeniably creating opportunities to positively impact a large number of diverse communities in Tunisia through strategic investments against clear gaps or opportunities. The revolution itself is a prime example: while citizens in the interior largely did not have access to engage in online activism, a few well-connected individuals spread their stories to allies in the urban areas who shared their outrage.

Largely as a result of ICTs, a vivid awareness of unequal economic opportunities, uneven social structures, and opaque institutions was widespread. Although not all Tunisians enjoyed technological access, technological shifts facilitated change for all Tunisians. In the pursuit of a new post-revolutionary social contract, the application of ICTs will continue to create opportunities that can similarly impact wide swaths of Tunisian society.

The purpose of this publication is to identify the most promising of these opportunities. To understand and contextualize these opportunities, the findings presented here are framed through the perspective of individuals representative of diverse communities. These perspectives were gained through an applied ethnographic approach; over 100 Tunisian citizens, including entrepreneurs, government officials, teachers, activists, doctors, day laborers, computer hackers, community leaders, and families were interviewed for this study, out of the belief that people and communities often hold the best solutions to their own problems. Most of the interviews focused on the challenges people currently face, the changes they

have seen since the revolution, and/or the demands they have for further change. These results were validated against academic research and conversations with regional experts.

By illuminating the stories, concerns, and hopes of Tunisians, this publication seeks to provide more complete and democratic responses to society-wide questions. By mapping group dynamics, social networks, and citizen attitudes, these findings attempt to articulate a broadly representative picture of what Tunisians hope their country may become.

The findings fall into five thematic areas: First, the widely-voiced concern of regional disparity, while a significant challenge, is also an opportunity for great impact. Additionally, the research surfaced four topics that present particularly timely opportunities to encourage growth in the new Tunisia:

○ Building an entrepreneurial economy by supporting and encouraging small and medium-sized enterprises (SMEs);

○ Investing in future growth by improving the quality of the higher education system;

○ Harnessing a vastly more inclusive and potentially more effective political marketplace; and

○ Creating a robust and participatory civil society, especially by maximizing the potential of online connectivity.

Each of these opportunity areas is examined in detail in Sections 3, 4, 5, and 6, respectively, of this publication. Through narrative accounts representative of different demographics, this report explains the factors that are curbing or helping citizens' ability to reach the aspirations of economic development, transformational governance, and social cohesion made possible by this period of change.

SECTION OVERVIEWS

Section 2:
Developing an Inclusive Tunisia

Context

Provinces in the interior of Tunisia are isolated from the coastal hubs of economic activity by distance and, more significantly, by a lack of transportation and information networks. Denied support from the previous regime for critical infrastructure, citizens in these regions lack access to economic opportunity. Without government support for basic irrigation systems, for example, they are unable to make full productive use of their land. The result has been widespread economic distress in the area, powerfully evidenced by an unemployment rate of between 20 and 30 percent: By comparison, in urban areas such as Zaghouan, Nabeul, and Monastir, unemployment is less than 10 percent.[2]

Implications

FOR ECONOMIC DEVELOPMENT Nearly 40 percent of the Tunisian population lives in regions of the country with absolute poverty levels above the national average.[3] Addressing the demands of these nearly four million people after decades of neglect is a significant challenge, but successfully doing so can help stabilize and grow a robust middle class, create a healthier and more educated workforce, and foster a culture of entrepreneurialism outside major cities.

FOR TRANSFORMATIONAL GOVERNANCE Efforts to address regional disparity may also improve government accountability and inclusiveness. During the Ben Ali regime, disadvantaged areas lacked a voice in the allocation of government resources, and were often neglected as a result of patronage practices and power structures endemic to the regime. Even though economic development may be slow—as many Tunisians say they expect and understand—improved government accountability as Tunisia moves towards a representative system can positively impact the inequality between different parts of the country.

FOR SOCIAL COHESION Economic, political, and social disparity between the privileged coastal regions and the interior remains a source of tension: activists in the interior continue to call attention to the lasting effects of the Ben Ali government, and numerous respondents from all areas made clear that unrest would continue if tangible efforts towards improving the lives of citizens in marginalized regions were not made. This is not to say that Tunisians expect immediate improvement; most respondents understand that lasting progress will take years, if not decades. But even as they are willing to wait patiently for substantial results, they demand proof of progress in the short-term.

Section 3:
Expanding Opportunity
Through Entrepreneurship

Context

Small and medium-sized enterprises (SMEs) have the potential to rapidly grow an increasingly open Tunisian economy. As has been demonstrated in numerous other contexts, early investments in SMEs can lead to economic expansion and job growth.[4] The potential is especially high in technology-oriented sectors, and many Tunisian entrepreneurs are interested in what they see as untapped regional markets. But SMEs in Tunisia today face significant constraints, including elevated costs of doing business, government control of critical markets, and skill deficiencies in the workforce.

Implications

FOR ECONOMIC DEVELOPMENT A clear opportunity lies in supporting entrepreneurs: SMEs and informal enterprises account for over 60 percent of GDP and over 70 percent of total employment in low income countries.[5] Success of these businesses will also incentivize more multinational corporations to open businesses in Tunisia and invest in local innovation.

FOR TRANSFORMATIONAL GOVERNANCE Many of the frictions inhibiting SME success are legacies of the highly centralized and autocratic system of the Ben Ali government, which prioritized economic control over innovation. Similarly, support systems vital to a strong business climate have significant deficiencies as a result of non-transparent systems set up by the old regime. Improving the economic potential of entrepreneurs will require significant improvements in government accountability and transparency. Further, some institutions left over from the prior regime still maintain monopoly control over markets with great potential for SMEs. Loosening these controls will create a more inclusive and accountable government as well as open up new economic opportunities.

FOR SOCIAL COHESION Many talented Tunisians are returning to their homeland from abroad to share in and contribute to the new Tunisia.[6] A business environment supportive of SMEs will encourage the best and the brightest to remain in the country, which can invigorate the private and public sectors and contribute to social cohesion. Entrepreneurs from the marginalized interior regions must also see proof that they have a fair opportunity to succeed in the new market; otherwise, their skills and resources may be channeled toward further unrest.
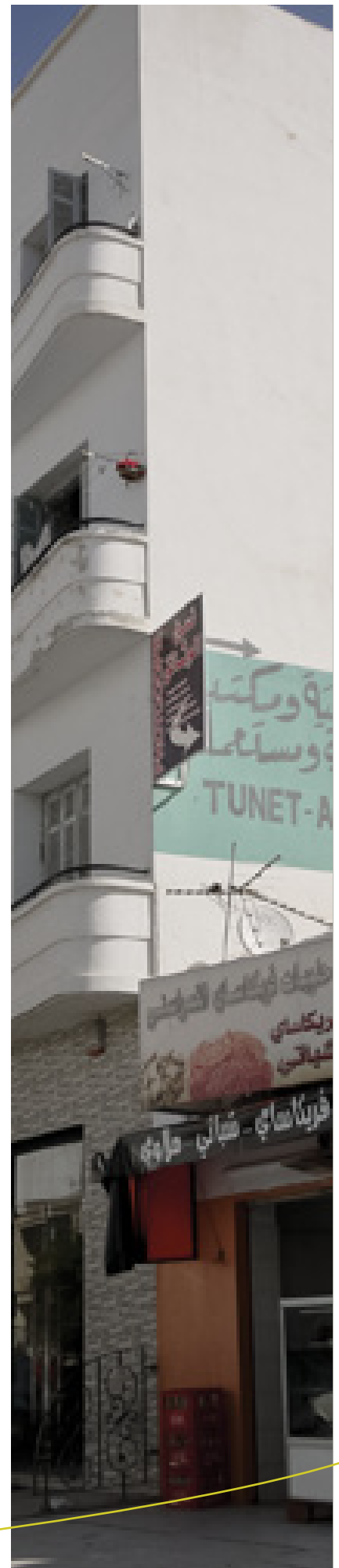
Section 4:
Investing in the Future:
Tunisia's Higher Education System

Context

The Tunisian higher education system has been widely praised for its coverage of the population and its sophistication relative to the region. Upon close examination, however, this investigation discovered that the strengths of Tunisia's university system were significantly overstated by the Ben Ali government. Respondents from throughout the higher education system, as well as associated stakeholders such as business leaders, noted significant gaps in pedagogy and curriculum. In addition, the research surfaced areas of concern around quality of instruction and infrastructure that need to be addressed for Tunisia to become more competitive as a knowledge economy leader in the region.

Implications

FOR ECONOMIC DEVELOPMENT The higher education system established by the Ben Ali regime produces an oversupply of graduates for industries that cannot absorb them (such as engineering). Additionally, it prioritizes a theoretical pedagogy over a practical one, leaving many graduates with limited applied training. This decreases their effectiveness on the job and forces companies to divert resources toward employee training.

FOR TRANSFORMATIONAL GOVERNANCE The Ben Ali regime had a heavy hand in university staffing decisions. Now, the increasing democratic influence in university leadership is contributing to the overall level of openness in society. Universities are also an important factor in the development of accountable government institutions, as government officials are ultimately products of the university system. Higher education has a critical role to play in educating elected officials and a future civil service corps, and in forging a thoughtful policymaking ecosystem.

FOR SOCIAL RESILIENCE In many nations, education represents one of the surest means for citizens to improve their livelihoods. Thus, Tunisia's university system is a critical element of enabling social cohesion in the country. The inequalities between interior and coastal regions noted above are also manifest in the education system; addressing these inequalities will improve long-term inclusiveness nationwide. Further, the university system presents a forum for students from different backgrounds to understand deep, historic fissures in society, and to build new relationships with their peers from different backgrounds.

Section 5:
Building Participatory Politics

Context

The present period is one of immense political opportunity. Tunisians' increasing engagement in their political system is being expressed through an explosion of political media, new political parties, and other forms of participation. The October 2011 elections were widely celebrated as free and fair, and enjoyed nearly 90 percent voter turnout. Yet after generations of authoritarian rule, many people are struggling with the mechanics of political participation. The flood of new information and media is confounding the efforts of new voters who seek reliable, easy-to-use sources of political intelligence.

Implications

FOR ECONOMIC DEVELOPMENT The new political climate holds great potential: as government becomes more open and inclusive, communities and groups that were formerly excluded will have new access to economic opportunity. Some institutions that are vital to economic development, such as the customs agency Direction Générale des Douanes, were influenced by the old regime in ways that hindered its efficiency. Increasing the accessibility and fairness of these institutions can help remove or reduce many bureaucratic inefficiencies, benefitting the local business community and further encouraging foreign investment.

FOR TRANSFORMATIONAL GOVERNANCE Broad political participation is clearly playing a powerful role in the new government's development. Members of the Constituent Assembly are actively pursuing new methods of engaging with the public. Other influential leaders are also showing an increased willingness to engage in public discourse with opposing viewpoints. Perhaps as a result of this rapid opening of political society, Tunisia's early post-revolutionary period has seen an overabundance of political parties and factions. This plurality creates complexity and confusion for citizens, underscoring the need in Tunisia for structures, institutions, and processes to manage political discourse and make critical governing decisions. It is also important to note that due to the strategic and symbolic importance of Tunisia in the region, improvements in the openness, accountability, and inclusiveness of its government institutions will likely have second-order effects on the entire Middle East and North Africa region.

FOR SOCIAL COHESION Developing transparent, fair institutions can address many of the issues of unrest that threaten the stability of a new government and improve social cohesion among Tunisians. Further, the political process in Tunisia is happening against the backdrop of larger regional issues, including the debate around political Islam. How the conversation unfolds in Tunisia will likely influence the role of religion in politics throughout the region.
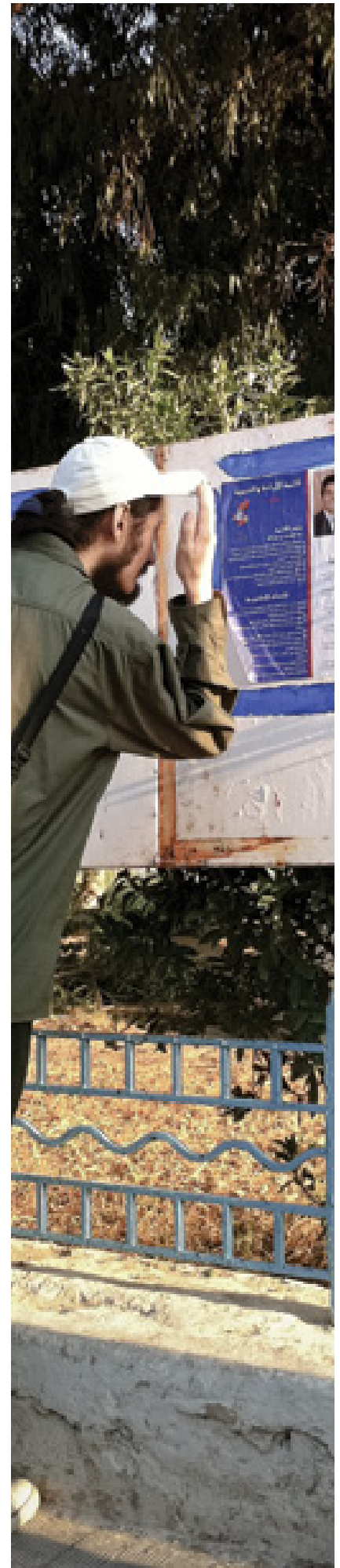
Section 6:
Towards a Digital Civil Society

Context

ICTs have proven their capacity to extend the public square in contexts all over the world; analyses of the Tunisian experience frequently state that technology was central to the revolution. Before the revolution, the online communities that grew under the authoritarian state were a ready source of political organization and cooperation: Facebook served as a central hub for political dialogue and additional social media tools served to strengthen tight-knit community bonds that were already at the heart of political participation.

Implications

FOR ECONOMIC DEVELOPMENT Online communities consist of members that are generally technologically savvy and have a demonstrated interest in community engagement. Many groups form around a common interest in the economic opportunity presented by technical expertise, and there is an observed prevalence of aspiring entrepreneurs in these communities. While online communities have largely been at the margins of the formal economy, their development is an important asset for building economic potential and innovation.

FOR TRANSFORMATIONAL GOVERNANCE Under Ben Ali's authoritarian government, communities formed online because of the lack of in-person options for public discourse. These communities' strength and importance during the revolution has not diminished in the time since—they are a ready means for articulating the will and values of different segments of the population, as well as for putting pressure on the political system to achieve greater openness and transparency. Thus, these groups can participate in and enable the development of a robust civil society.

FOR SOCIAL COHESION The active conversations taking place among online communities show the confidence of many citizens who are taking initiative in the development of a new society. A significant amount of civic activity is currently happening online, and no indicators suggest this is likely to change. The continued vibrancy of these communities— and the ability of institutions and the government to adopt and understand these tools—is critical to engaging the increasingly connected and complex populace.

Conclusion:
CREATING A 21ST CENTURY SOCIAL CONTRACT

In 2011, the world witnessed the downfall of four heads of state, protests by millions of people in 16 countries, the deaths of at least 43 journalists and approximately 40,000 protestors, and entirely new evidence of what is possible when citizens exercise the power of their connectivity to demand recognition of their rights.[7]

The political turbulence that defined the Middle East and North Africa region last year started in Tunisia, when a young fruit vendor tragically lit himself on fire. He became a symbol of his people's deep frustration with the inequality, economic stagnation, and government neglect of their society, and the seemingly endless power and wealth of their autocratic ruler.

Tunisia is a clear example of how citizen frustration in a country can translate into transformative political change in a region. Now, the country has the potential to yet again serve as a model—this time for how to achieve stability, democratic process, and economic growth in a post-revolutionary society.

This is a deeply complex moment in a country of rich traditions and immense opportunity. Tunisia's future is developing rapidly—indeed, this report will be out of date almost as soon as it is published. In that rapid evolution, there is tremendous possibility, but also tremendous uncertainty.

The following pages will chronicle Tunisia's ongoing social dynamics through the first anniversary of the revolution. Taking a critical point-in-time snapshot of a broad sample of Tunisian society, it offers a deeper understanding of how citizens view their lives, limitations, and opportunities. It represents, to varying degrees, the voices of over 100 Tunisian citizens of all demographics, from nine cities and towns and dozens of institutions and organizations. Validated against larger survey data and academic research, the critically important trends in the following pages will provide a useful roadmap for the international community to support the Tunisian people.

The Tunisian revolution was in large part an expression of the people's desire to be seen and heard. One day before Mohammed Bouazizi, the young fruit vendor, doused himself in gasoline, he reportedly said to a government official, "If you don't see me, I'll set myself on fire."[8] He was speaking literally to the official's refusal to consider his complaint against police mistreatment; but the sentiment in its metaphorical sense, of being unseen and ignored by those in power, was echoed throughout the revolution.

Bouazizi's was just one story of oppression and disrespect—there were hundreds of thousands like him under the Ben Ali regime. But in a clear and urgent moment in time, Bouazizi's story became the symbolic narrative of the Tunisian people, the "story of now": a story which crystallized widespread frustration and inspired the action of millions.

Today, this desire to be heard and respected remains. It is evidenced in the human stories of the great many Tunisian citizens who share in the following pages their hopes, their needs, and their demands for continued social progress. In highlighting opportunities for successful investment in Tunisia, this publication aims to serve as another outlet for the Tunisian people to have their needs and demands understood and, as much as possible, met. ○

DEVELOPING AN INCLUSIVE TUNISIA

"When the revolution of December 2010 erupted in provincial towns such as Kasserine, Thala, and Douz, it was because people there could no longer bear their poverty and humiliation in contrast to the wealth of the developed coastal cities—and the coastal cities themselves could no longer put up with the corruption and denial of freedoms."

Dr. Moncef Marzouki, Tunisian human rights activist, physician, and current President of Tunisia[1]

AN OVERVIEW
of Regional Disparity

A child born along the coast of Tunisia will live a very different life than one born in the country's interior regions. A young girl from seaside Nabeul will likely be reasonably well-educated, have her health needs largely met, travel over good roadways on her way to school, and have access on par with parts of Europe to technologies that connect her to the rest of the world. Her peer in the rural town of Thala is less likely to attend school past the age of 10, will not expect any response in cases of health emergency, let alone regular health screenings, will probably lack reliable transportation to basic services or markets, and will likely not consider how a mobile phone could be useful in her life.

These regional disparities are structural and institutional, and have been cemented over decades. Coastal regions tend to be wealthier in general, but these disparities are much more severe in Tunisia, largely due to the political dominance of networks centered around the Ben Ali regime.

Factories (and employment prospects) have long been concentrated along Tunisia's coast. The people in the interior regions are isolated from these hubs of economic activity not only by distance but, more significantly, by a lack of transportation and information networks. Investment in infrastructure has been historically neglected, physically isolating communities and undermining their efforts to attract foreign companies to vast tracts of land and select natural resources. Similarly, underinvestment in irrigation has limited the potential agricultural bounty of these regions, limiting many farmers' ability to use the elements available to them.

What industries the government has invested in—disproportionately, tourism and textiles—rely heavily on foreign supply chains and fail to deliver a significant domestic payback.

As the world saw a year ago, the situation is enough to incite a revolution. As President Marzouki noted in an op-ed published in *The Guardian*, the flame of the Tunisian Revolution was lit by these disparities, and only later evolved into a struggle against the long-time dictator.[2]

In the post-revolutionary period, regional disparity remains a key threat to the country's social cohesiveness. As a military commander in charge of an interior governorate said, "There will be a second revolution in Tunisia if things don't change. This time, it won't be people against the government. It will be people against people."

This is not to say that the country is emotionally heading towards civil war. Tunisians are pragmatic; they are looking to take appropriate steps toward significant and broad-based social progress. However, in

> These regional disparities are structural, institutional, and cemented over decades.

places where livelihoods are brittle and needs are great, the capacity for patience is understandably short.

Hospital staff in rural El Fahs, for example, reported that patients have become more aggressive about asking for vital medicines, which have long been in short supply. After so many years of inequality, the opportunity for change presented by the revolution has limited their tolerance for deprivation.

Fortunately, there is relative consensus about the importance of addressing this regional disparity.

Significantly, leading politicians have begun to at least publicly discuss proposals to alleviate regional inequality.[3] On the one-year anniversary of Bouazizi's self-immolation, for example, four of the country's highest-ranking political leaders gathered in his neighborhood for a conference organized by the Sidi Bouzid Foundation for Regional Development. Their discussions focused on improving living conditions in the area, developing greater opportunities for the region's youth, and making Sidi Bouzid a destination for "freedom fighters from around the world."

Acknowledging that "[it] is not easy to build anew when those before left so much destruction in all corners of the country," the leaders promised to establish a local university hospital and improve health services in the area. These proclamations are, of course, very early steps and still far from implementation, but President Marzouki genuinely seemed to understand the problem. In his remarks, he asked, "Why do locals have to travel long distances to simply get treated? The whole city only has 350 doctors" (for a population of nearly 400,000).[4]

To further examine how far Tunisia must go to alleviate regional disparity, this section will offer some insight into what it is like to live in Thala, a town in one of the most marginalized regions of the country. It will introduce the reader to a few typical citizens as a way of understanding the challenges faced by the people in the interior, as well as their demands for change. It will then map the gaps in government service delivery through a case study of a hospital in El Fahs, a marginalized town in Zaghouan Province, about an hour from Tunis. Finally, it will draw conclusions about the effects of regional disparity and, importantly, the government's preferential treatment for well-connected individuals on governance, economic development, and social resilience—issues deeply relevant to any kind of institutional transformation in Tunisia.

KEY INSIGHTS IN THIS SECTION:

Regional disparity between the wealthier coastal regions and the interior remains a critical source of tension.

Health needs are particularly urgent and trust in public institutions is low.

Numerous respondents from all areas made it clear that unrest would continue if tangible efforts towards improving their lives were not made.

Technological interventions, appropriately applied, could help better deliver needed public services.

VISITING THE INTERIOR:
A Snapshot of Thala

Official census records from 2004 state that the town of Thala is home to approximately 14,000 people.[5] The actual population is estimated somewhere between 40,000 and 60,000; a local official for social affairs interviewed said that this discrepancy is likely the result of statistics that were manipulated to substantiate the region's greatly decreased budget allocations.

Located in Kasserine Province, just an hour east of the Algerian border, Thala's physical geography is striking: a rolling landscape of rocky terrain, bright sun, and olive trees, dotted with the occasional cactus fruit plant. The roads are sparse, particularly in the rural regions just outside of town. At 3,337 feet above sea level, it is the highest and coldest town in the country.

Even more striking than the landscape is the economic deprivation. To the visitor, it is immediately palpable. Years of underinvestment and a lack of representation in government during the Ben Ali regime has left grave deficiencies in social services, infrastructure, water, education, and employment.

THALA IN BRIEF

Tunis

THALA
Kasserine
Province
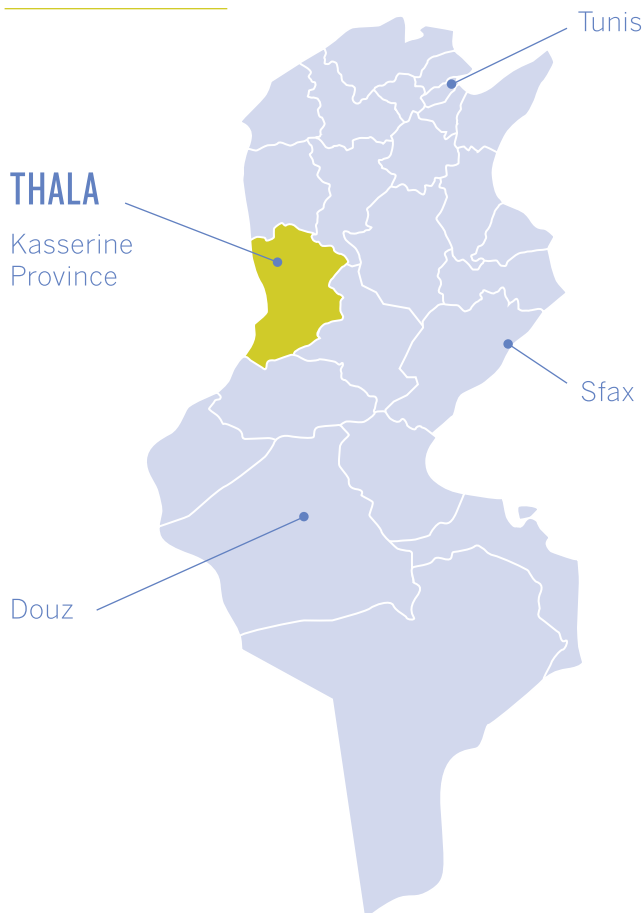
Sfax

Douz

30.7% poverty — Provincial poverty rate in 2005

23 to 26 % unemployment

11 to 15 % illiteracy

2011 rates for Kasserine Province, the highest in Tunisia

TUNIS: **3 hrs** drive

SFAX: **3 hrs** drive

DOUZ: **4 hrs** drive

Distance to nearest emergency hospitals

Lack of Investment, Lack of Services

Until recently, the interior regions of Tunisia received only 35 percent of public investment.[6] The severe, sustained inequality in the interior has resulted in particularly poor service delivery, especially for children's health and education. There are 140,000 residents for every one pediatrician in the Kasserine region (and that is only the second highest ratio in the country). Up to 15 percent of the young people between the ages 10 and 29 in this area do not know how to read. One farmer interviewed was only able to send some of his nine children to school on the rare occasions when transport animals were available.

Voluntary social support services were also severely restricted in many cases before the revolution. One local community leader interviewed had only recently received authorization to operate an association providing assistance to people with disabilities; prior to the revolution, he said, this activity was not allowed, and many people were forced to operate social support programs underground, to avoid government persecution.[7]

Post-Revolution, Resources Remain Deficient

Since the revolution, requests for assistance have been formalized through the local government. A social affairs official reported that she now has 2,000 families on the waiting list for food aid, medicine, transportation, and other necessities. She estimated that she has access to a car to make home visits once every six months, and has one computer to share with her four assistants. She is meant to visit regional schools twice a month, but estimates that she only visits them twice a year. Community leaders disagree with government statements—one said that he had never seen a social affairs official visit his community's school—and are generally quite distrustful of the statistics from the Ministry of Social Affairs about the level of service needed and delivered in their communities.
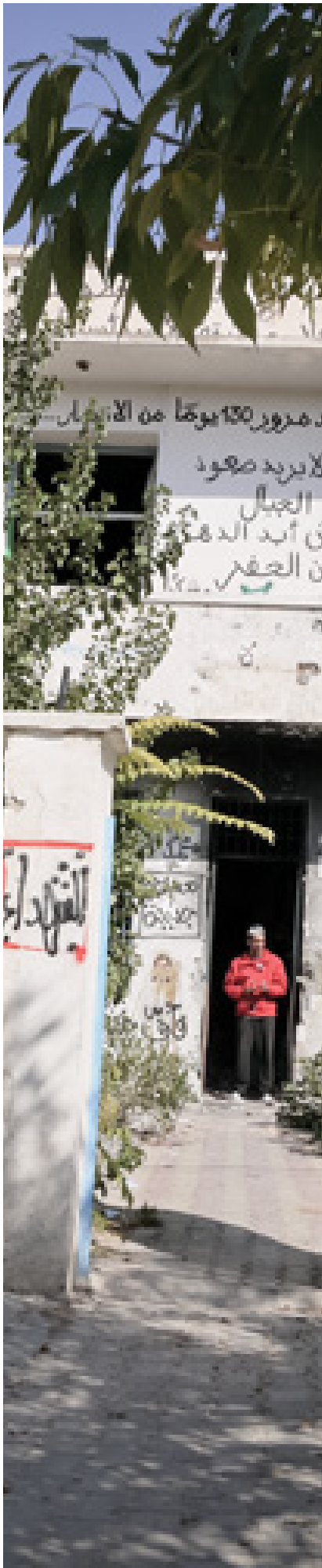
The Need for Health Care is Urgent

One elderly man interviewed outside Thala had been suffering from a leg infection since 1998. He had undergone a number of surgeries for the condition, and walked with crutches. He was fortunate to receive free treatment at a hospital in Tunis, and the doctor there even made it possible for him to collect a one-time waiver for TND 70 worth of assistance (about USD $40) from the new government to pay for medicines sent via the postal service. However, he has no way to take the three-hour trip to get a check-up every two months, as requested by his doctors, and so he often goes without medicine or treatment.

The cost of medicines remains a challenge for many. Some in Thala had heard of a "health caravan" that traveled through the region delivering medical services, but having never seen it, they assumed they were too far from the city. For all severe medical emergencies, citizens have a choice between the major cities of Tunis (three hours away), Sfax (three hours away), or Douz (four hours away).

Health issues of particular prevalence in Thala include physical disabilities, which professionals suggest may partly be due to lack of genetic diversity among isolated populations, and Hepatitis C caused mainly by needle-sharing and unsanitary medical practices (including one particularly neglectful gynecologist who infected a large number of local women).

A Complex Relationship with Public Safety

The self-immolation of Mohammed Bouazizi set off four weeks of protests and riots against joblessness and other social ills in Thala, culminating in the deaths of approximately 20 people and the injuries of many more. The national government eventually deployed military reinforcements to support Thala's local police force and restore order to the town. Actions like this have incubated a distrust of and distaste for police forces, which was evidenced by the invasion and destruction of the police headquarters after the revolution (the structure was later turned into an art gallery by Thala's youth).

However, there is a more nuanced relationship between the local military command and community leaders, since the military was responsible for quelling the uprisings, bringing both order and death. While local residents considered their fallen comrades as martyrs to a cause, they also felt that the military's presence has been a positive force in the town.

A current senior military official, responsible for Thala and the surrounding areas, speaks more like a civilian leader than one might expect: "It is going to take some significant time for a new government to build trust among the communities here. Most importantly, the young people need to see hope, and signs of progress, or they will be back in the streets. There are many diploma holders here who had been promised that an education would give them opportunity, but they have graduated and they see none of it. We have critical human resources

in this region, but we have no employers to hire them. We also have many natural resources here, like marble and agriculture—but no one is taking advantage of it because the government forgot about this place. We need better Internet connectivity. Many people have computers, but no Internet. What is the point of a computer without the Internet? And finally, this community is struggling to find competent leaders. Everyone who was a leader before was corrupt. And those that might be leaders were put down. So who can step up now?"

As part of the first wave of sustained social protests following Bouazizi's death, Thala held an important role during the revolution. While the country-wide revolution eventually focused on the general corruption of the Ben Ali regime, the Thala uprisings were driven by deep dissatisfaction with regional disparities. That dissatisfaction with sustained poverty, joblessness, and destitution still exists today: villagers regularly block roads to make demands on passersby, particularly those suspected of being members of government or others in positions of power.

Rich or Poor, Economic Opportunities are Slim

Thala is home to both the highest unemployment (22.6 to 25.6 percent) and illiteracy (11.4 to 15 percent) rates in the country. In 2005, while the national poverty headcount stood at 11.3 percent, the number in Greater Tunis was only 3.4 percent, while the Kasserine region, including Thala, hit 30.7 percent.

A high percentage of the rural population in the Kasserine region (almost four out of 10 people) are employed in agricultural activities, according to a 2007 national employment report. Many families have been farming for decades—some have been living on their land for over one hundred years—but without irrigation, their ability to improve crop yields is greatly limited. A primary cash crop is *zeitoun* (olives), which is pressed into oil for export to Italy, sold at approximately 10 times the purchase price, and then sent on to the United States and Europe with an extra mark-up. Tunisians retain none of the profits of these mark-ups.

There are a number of small farmers in the area, but they largely do not collaborate to bargain for higher prices or establish benefits-sharing systems. The harvest season typically lasts for approximately 10 days between October and January; after January, many farmers have no means of gainful employment. Many reported that their land could produce much more if irrigated, but as the farmers lack the capital to do it themselves, the land sits idle. When water is needed, some families import water bags on the backs of animals.

The lack of irrigation is compounded by the fact that many individual workers do not own their own land—as tenant farmers, they lack the ownership rights needed to secure a bank loan for improving infrastructure or crop yields. While local residents seemed to believe that land ownership laws were in flux, research was unable to determine any legal developments in land tenancy after 1988. Still, it is likely that not much will change for the farmers of Thala.

"We have critical human resources in [Thala], but we have no employers to hire them."

COMPARISON OF INLAND AND COASTAL INFRASTRUCTURE

The following diagram offers a comparative portrait of transportation, sea trade, health care, and telecommunications connectivity between two provinces in Tunisia—one interior and one coastal. Even accounting for differences in population density, the disparities are marked.

KASSERINE
[INLAND PROVINCE]

NABEUL
[COASTAL PROVINCE]

8
hospitals & clinics

16
hospitals & clinics

3.9 doctors
per 10,000 inhabitants

7.8 doctors
per 10,000 inhabitants

Health care

According to UNICEF, infant mortality is twice as high and maternal mortality is much more frequent in the case of these four rural governorates (Kairouan, Kasserine, Jendouba, Sidi Bouzid) than the national average.

0 km
highway roads

38 km
highway roads

3
railroad stations

6
railroad stations

Transportation

0

4

Sidi Daoud
El Haouaria
Kelibia
Béni Khlar

Nabeul

International Trade Ports

Kasserine

ALGERIA

MEDITERRANEAN SEA

KASSERINE
[INLAND PROVINCE]

NABEUL
[COASTAL PROVINCE]

Telecom

3.6% of pop.
fixed line telephone subscribers

10.3% of pop.
fixed line telephone subscribers

63.8% of pop.
mobile subscribers

85.8% of pop.
mobile subscribers
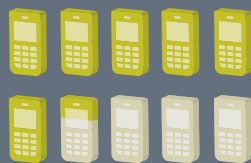
27
public internet access points
(all Inland provinces)
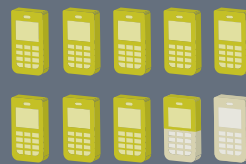
232
public internet access points
(all Coastal provinces)

12.5%
increase in public internet
access points between 2000 - 2002
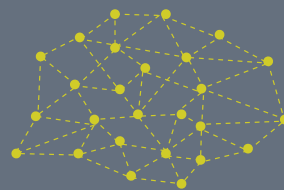
186%
increase in public internet
access points between 2000 - 2002

CITIZEN ARCHETYPES:
Meeting the Citizens Demanding Change

Thala is a place of great struggle, inequity, and need. Its residents, however, exemplify the hopefulness and pragmatism of citizens across the country. The following section introduces a few of these citizens, their stories, the nature of their technology use, and their demands for change—health care, employment, and infrastructure. They are aware that better options exist: their demands are for pragmatic, basic needs, and for the same opportunities available to their fellow Tunisians in more-connected areas.

RURAL FARMER

A male olive farmer in his late 40s, who is the father of nine children, aged 3 to 25. His family has cultivated their land for over 100 years but his persistent health problems have kept them on a subsistence-level existence. Although not all of his children are in school (he himself only had six years of education), the teacher of one son recently discovered the family's hardships and bridged a connection to a newly formed civic association.

Demands for Change

- Above all, some form of transportation, so that he can pay respects to his deceased father, and so that he can attend his medical appointments.
- Money to pay for essential medicines.
- Electricity to generate heat, as it gets quite cold in the winter.
- Irrigation for the land.

Use of Technology

His daughter recently gave him a mobile phone, but he only uses it to receive calls. He does not have the funds to make calls or send text messages and there are no fixed phone lines in his area. He thinks one of his sons may have used the Internet at school, but isn't sure.

COMMUNITY ACTIVIST

A woman in her early 50s, from a rural village outside of Thala. Her father collected saffron, a hard job but he saved up enough money to allow her to leave the village to become trained as a teacher. Before the revolution, she covertly provided aid for poor families and, in so doing, built up a strong reputation in a community that pays her much respect. She helped to organize activities during the protests in early January 2011, particularly among students in the town. Her son, an engineer, used Facebook to diffuse information about protest activities.

Demands for Change

○ Members of her home village receive the same opportunities she has had.

○ Her fellow residents of Thala and citizens of Tunisia develop tolerance, open-mindedness, and civility toward each other, and that they experience freedom.

○ Women in society receive particular redress for their struggles.

○ Irrigation for the land.

Use of Technology

She has a basic mobile phone, and uses it to make voice calls and send SMS messages. She also uses Facebook heavily in organizing protests and in soliciting funding from supporters abroad.

LOCAL MINISTRY OF SOCIAL AFFAIRS OFFICIAL

A woman in her late 30s who previously worked for the UN Food and Agriculture Organization. She was assigned to the Kasserine region before the revolution and has maintained her post, even though she now reports to the local military commander. A native to the region, she grew up with a disability, forcing her family to seek medical assistance throughout her childhood. Currently, she has a caseload of over 900 people.

Demands for Change

○ Greater resources for the Ministry, including social worker assistants, cars, computers, fax machines, and phones.

○ Better statistics about the actual population in need and greater honesty in budgeting to reflect the true level of need.

○ Better infrastructure, including water and gas.

○ Improved education.

Use of Technology

She is quite technologically savvy and noted that she would be much more efficient if she had use of a fax machine, internet access, additional computers, and electronic case management systems. Currently, she and her four assistants share one computer.

ASSESSING SERVICE QUALITY:
A Focus on El Fahs Hospital

Regional disparities in Tunisia are highly salient in health care. While many conditions go undiagnosed and untreated in remote parts of the country, being physically close to health care facilities does not necessarily improve health outcomes. A visit to a hospital in the vicinity of El Fahs, a city located at the intersection of four major roadways in northern Zaghouan Province, reveals that quality of services matters as much as quantity and geographic distribution.

The hospital's white exterior is weather-worn. Just outside the entrance, 10 meters from public health posters warning against smoking, there are patients resting and hospital staff smoking. The compound—patient rooms, an emergency room, medical procedure spaces, doctors' offices, storage units, and a pharmacy—feels cramped.

The hospital provides emergency, maternity, public health, and hygiene services, as well as café and restaurant inspections, vaccinations, radiology, lab analysis, dentistry, and limited pediatrics. Although there is a birthing ward, there are no gynecologists in residence: abnormal births must go to the regional hospital in Zaghouan City (30 minutes away) or Tunis (a drive of more than an hour).

There are no surgical services, and although there is an emergency room, the hospital is not equipped to handle trauma cases, of which there are many, given El Fahs' location on major highways. A steady stream of traffic accidents and other ailments bring in about 50 patients per day, or just over 18,000 per year. There are 13 doctors equipped to respond to these patients—approximately one for every 1,400 patients—and a staff of some 50 nurses, technicians, administrators, and janitorial staff.

Discussions with a hospital administrator, a pharmacist in training, a doctor, and several medical assistants revealed some critical tensions:

Job Security in Hospitals is Uncertain

Hospital staff repeatedly mentioned the tenuous standing of their jobs: some were on month-long contracts, while others had worked for years on salaries insufficient to cover their bills. A number of educated staff mentioned that they were working in their positions because they could not find work elsewhere, suggesting they believed themselves to be over-qualified for their current roles. The doctor, for example, upon receiving his degree was required to accept work placements that were directed by the state. He was sent to Egypt to work as a cardiologist for 12 years, then to a location along the South Algerian border for five years; he has been in El Fahs for the past five years. He is disgusted with the working conditions in El Fahs and frustrated with the poor infrastructure and consistent lack of medical supplies. He desperately hopes to be placed in Tunis soon.

The administrator had been a nurse at a facility owned by a French company. When that work ended, she could not find a similar job, and so ended up in her current capacity at the El Fahs Hospital. One technician noted that his contract could end at any time; the intermediary who controls his employment is a local representative of the mayor, not of the health ministry. He seemed to imply that his continued employment depended on good relations with this local representative and, more broadly, on factors beyond his performance and control.

Since the Revolution, an Increase in Demand

People die regularly in this area because the hospital does not have the necessary medicines and equipment to save their lives. But citizens' willingness to accept this situation is changing. As a pharmacist observed: "People don't accept waiting anymore because they think that everything has changed."

Clients have become confrontational, particularly in making demands for drugs they need. The pharmacist has empathy for these patients, since they depend on their medications, but the supply is simply inadequate. The pharmacist noted that the regional hospital in Zaghouan City has a smaller population than El Fahs but receives more resources. As of October 2011, the revolution did not seem to have changed the imbalanced budget and drug allocations for citizens in El Fahs.

Suspicion About Bureaucratic Improvements

Regional resource allocation has recently been in flux. There is a veneer of improvement in bureaucratic efficiency, but these seem or are perceived to still be controlled by the old underground networks of power and advantage.

For example, many hospital staff were concerned about a national program they had heard was being established to decrease the number of regions in Tunisia. Under the program, staff explained, El Fahs would be absorbed by Nabeul, a coastal governorate. Hospital staff were of two minds about this: Some thought it was a bad thing, because the Nabeul government would shift funds toward people in their own region, leaving those in El Fahs even poorer than before. But others thought that it could be good, since Nabeul is a wealthier region and may be inclined to give more to El Fahs.

While some political parties have advocated for the unification of certain regions, the research did not uncover any national program to implement this. However, the staff perception of this rumor reveals, importantly, that everyday public service workers believe the role of provincial and national governments to be essentially out of their control: their lives are guided by the decisions of powerful people, despite data that would suggest better and different decisions.

For people living at subsistence levels, there is the sense that at any moment, things could again drastically change against their favor. Yet, they believe that the current post-revolutionary political opening offers the first chance to change existing power structures in decades. Understandably, this has left those living in marginalized communities aggressively advocating for their needs while they feel the door is open.

The new political
opening is the
first chance to
change these
power structures
in decades.

Conclusion:

REFLECTIONS ON SOCIAL INCLUSION
Amidst Networks of Privilege and Trust

Return, for a moment, to the elderly farmer in Thala who had been suffering from a leg infection for 14 years. In addition to his infirmity, he has a large family and lives in a very remote area. When he needed help providing for their needs, his solution was to inquire of the local sheikh, who he thought might be able to assist. After some time, the sheikh returned to him with a voucher allowing the man free health care and some financial assistance. The farmer did not know whom the sheikh had asked for help; from his perspective, all he could see was that somebody, somewhere had said 'yes' to the sheikh. The farmer did not receive assistance through a government service exchange; rather, he had cashed in a personal favor, one that would one day likely have to be repaid.

The use of personal connections to bypass an ostensibly unbiased public service bureaucracy has been a long-standing pattern in Tunisia, and a symptom of the patronage system that was prevalent during the previous government. Signs of change however, are visible in the post-revolution period. In the past year, the farmer has received some unexpected help: TND 30 (US $20) for each of his school-enrolled children. A check made out to his name from the Ministry of Education had appeared in the mail one day, part of a broader one-time assistance program to families in the region. This is a marked shift from handouts from a sheikh.

There were similar hints of change in the interview with a social affairs official in Thala, a woman who sits on the other side of the service delivery chain. Before the revolution, she was required to undergo a very specific process for approving assistance claims. She would bring her files to a delegate of the local governor, who had sole discretion over who would qualify for social assistance. His office would review the case details about each particular family in need

and then make a decision—one based on relationships, the official suggested, rather than actual need.

Things have changed for the better since the revolution. The official now reports independently to the military commander responsible for the area. Only the official and her team know the case details of a family, maintaining confidentiality, and she now decides how to allocate resources from the Ministry of Social Affairs in her community.

Both of these anecdotes represent the start of a transition for Tunisia's interior. Citizens and government employees have long known that their life outcomes and job responsibilities were determined largely by personal relationships. Not only in Thala, but throughout Tunisia, these networks of power and association were a defining characteristic of the regime: whole regions of the country received resources in proportion to their favor with the families of Ben Ali and his wife, Leila Trabelsi.

The system of inequitable resource allocation, deeply entrenched in Tunisian society, complicates current efforts toward political progress, economic development, and social cohesion. It is clear that among ordinary Tunisians in the interior regions, trust in institutions is low. The exceptions are schools, hospitals, and postal offices; a number of citizens regard these as the most trusted arms of government because many Tunisians work in these systems, and because they are often the most important interfaces in delivering services. Yet overall, government institutions are not symbols of hope for Tunisians. Lacking examples of how a governing bureaucracy could operate fairly and efficiently, the country maintains a wait-and-see attitude.

Research on spatial multidimensional inequalities in Tunisia substantiates this

> In analyzing the potential for progress via technology, one must also be cognizant of its risks, particularly for rural communities.

project's findings about the structural imbalance between coastal and interior regions. A study from the Economic Research Forum finds that "delegation" zones around Tunis, Sousse, Monastir, and Sfax are significantly advantaged areas, scoring quite high on a spatial composite index of welfare. Thirty-five delegation zones in the north-west and center-west regions, on the other hand, have very weak measures of welfare.[8]

In addition, World Bank research on spatial inequality across the Middle East and North Africa region suggests the need for a multi-sectoral and multi-institutional approach to resource allo-cation, monitoring, and coordination. While ministries could benefit from more accurate and broader statistics on regional disparities, better implementation of their existing mandates could also improve service delivery drastically. The World Bank research also suggests that improved transportation and digital connectivity networks could advance lagging areas through simple proximity—in other words, very poor areas may only need short-distance ties, via transport or broadband, to become connected to greater prosperity in transformational ways.[9]

In analyzing the potential for progress via technology, one must also be cognizant of its risks, particularly for rural communities. Recent work on cooperative networks and the rural-urban divide suggests that ICTs leveraged for sustainable development sometimes operate as a double-edged sword. While ICTs can help to mitigate isolation from urban economic hubs, they can also drive a net outflow of resources from rural areas, undermining long-term economic goals.

The World Bank research argues for the use of cooperative institutions as a hedge against this kind of economic bleeding. That may or may not be feasible in Tunisia, given the traditional lack of agricultural cooperatives and the impact of a political history of authoritarian rule. A key point worth heeding, however: a market-based strategy for extending technology to rural areas is useful only to the extent that markets in those areas function smoothly

and equitably. Given the prevalence of multiple market failures in these rural, interior regions, a successful integration of networking technologies to promote economic development will be dependent upon social innovations that compensate for these previous failures. It will not be enough to merely deploy technology; a successful strategy will address the diffusion mechanisms by which technical solutions are integrated into daily social and economic routines of local people and organizations.[10]

To begin unwinding the inequality cemented into Tunisia's policy and budgetary decision frameworks over the past few decades, many of the aforementioned structural interventions should be considered. Transparent, accountable institutions, Tunisians say, must replace opaque, unaccountable, informal networks. Citizens should be able to request and receive financial assistance through a government service delivery chain and not via a third-party intermediary. Government officials should be empowered with professional guidelines and accountability structures to make assistance decisions based on beneficiaries' needs and not their social positions. Their neighbors should know that these decisions were made based on merit, by way of a neutral administrative process, and reliable data on outcomes should be available to citizens. There are many opportunities for technology to be helpful in achieving these aims.

In launching this report with a focus on the regional disparity that has torn so many threads in the social fabric of Tunisia, the intention is to give voice to regions of people who stand ready and willing, if given the opportunity, to work for a new Tunisia. On his recent visit to Sidi Bouzid, Head of the Constituent Assembly Mustafa Ben Jaafar reflected on a verse in the Tunisian national anthem: "We all die, but the country remains." Indeed, an inclusively developed Tunisia would bode well for a future of economic prosperity—and would answer the last wishes of a fruit vendor whose desperate plea for dignity launched waves of change across an entire region. ○

EXPANDING OPPORTUNITY THROUGH ENTREPRENEURSHIP

This section explores the business experience of small and medium-sized enterprises (SMEs) in Tunisia. It highlights challenges in their business environment, as well as opportunities where existing successes could be expanded. The observations, opportunities, and challenges presented here are pulled from dozens of interviews with business owners, employees, regulators, investors, and government officials.

BUILDING GROWTH
Through Small and Medium-Sized Enterprises

Mohamed is one of those rare software engineers with excellent business skills—a "sense of product." Originally from Tunisia, Mohamed trained in France in the early 2000s, where he saw the growing market for web-based applications. An entrepreneur at heart, Mohamed decided he could create those products and services for paying clients rather than the large technology company for which he'd been working. At that time, Tunisia had just begun to produce tens of thousands of young computer engineers, and Mohamed saw an opportunity to get ahead of the competition in France.

In 2004, Mohamed moved back to his homeland and launched a web-development firm focused on the Francophone market. Due to the relatively low cost of labor in Tunisia, he was able to underbid French competitors for web-application work. Business boomed. Mohamed quickly grew his team to 20 people.

But that initial success—and the pride that came with it—was slowly replaced with frustration.

For one thing, raising capital proved impossible. Mohamed sought investors to support the launch of a new office in Tunis and a sales unit in Paris. But each of the local investment vehicles had prohibitive terms: some asked for collateral he couldn't give, such as his family home; others wanted to take over more than 50 percent of his business in exchange for providing growth capital. After months of searching, and with no wealthy family and no government connections, Mohamed remained empty-handed. Lacking the capacity to hire the necessary accountants and project managers to handle expensive compliance needs, he watched large, lucrative contracts—which his technical team could have easily handled—slip past.

Mohamed also began to see his margins diminish. Web applications were becoming more complex, taking advantage of new, interconnected technologies, but his young teams were falling behind in their ability to effectively apply the latest tools. The company was often forced to redo work that clients judged substandard. Mohamed realized that his young Tunisian developers lacked applied knowledge of the software they were using; the theoretical knowledge they gained in the classroom was inadequate for meeting real-world market needs. He was forced to institute a one-year training and probation period for all new hires, which diverted resources from client services towards internal development.

To overcome these hurdles, Mohamed started searching for a breakout success. He had an idea with solid potential: his company would

Today, ICT-related small and medium-sized enterprises account for 10 percent of the local economy.

start developing proprietary applications that they would market themselves, in addition to developing for clients. Recognizing a shortage of locally relevant online applications in the Tunisian market, Mohamed began to develop an e-commerce platform that would leverage his team's local knowledge.

Like all of Mohamed's ventures, growing the platform in Tunisia was difficult. In the product-testing phase, customers repeatedly complained about difficulties with the online payment gateway, a state-sanctioned service offered by a consortium of local banks. The payment system was insecure and poorly developed, hurting uptake rates and consumer satisfaction.

After many rounds of iteration, and significant sunk costs, Mohamed ultimately deemed his company's first product unsuccessful. Without ever reaching a live launch, his team was forced to cancel development and divert their attention back to client work. Everyone was frustrated, but they agreed to try again with a new strategy when they had enough time and resources.

Despite the challenges—lack of growth capital, an inaccessible local market, and ill-prepared employees—Mohamed continues to work hard to grow his business. Entrepreneurs like Mohamed will likely be key drivers of Tunisia's future growth. The country lacks a large supply of natural resources, but the Tunisian knowledge industries have the potential to secure the country's upward trajectory in the global economy.

This fact was not lost on the Ben Ali government. Beginning in 2001, the government invested heavily in producing computer science and engineering graduates, and in enticing foreign technology companies to establish a Tunisian presence. Today, SMEs in ICT-related sectors account for 10 percent of the local economy. And, as numerous reports have shown in other markets, technology-related sectors have high potential for rapid growth.[1]

Due to the importance of SMEs in the Tunisian economy, this investigation focused on entrepreneurs like Mohamed, and on the diverse stakeholders that fuel SMEs, including business incubators, growth consultants, investment fund managers, and government regulators. The goal was to establish a panoramic view of the environmental attributes necessary to enable entrepreneurs to generate opportunity and jobs for their fellow Tunisians.

This section will introduce some of the institutions and individuals that represent the past, present, and future of business in Tunisia, and use their perspectives to explore the opportunities and challenges that lie ahead for Tunisian entrepreneurship.

KEY INSIGHTS IN THIS SECTION:

The cost of doing business for a Tunisian SME is increased by many small frictions, from poor consumer payment systems to cumbersome bureaucracy.

Several SME-friendly markets, such as the development of government information technology systems and the maintenance of public transit systems, are controlled by government providers.

There are many opportunities for existing SME support programs, such as incubators and technoparks, to improve and to achieve their target outcomes.

A scarcity of technically skilled labor reduces the competitiveness of ICT-oriented SMEs.

FRICTION, FRUSTRATION, AND FAILURE:
Exploring Pain Points in the Entrepreneurial Sector

Doing business in Tunisia can be challenging. For the average entrepreneur who lacks good connections or substantial wealth, numerous friction points constrain the growth of even a successful business. These frictions keep some businesses in low value-chain positions, despite their technical aptitude and potential for higher-value contributions to their sectors.

This section explores some of these common frictions, as well as common gaps: areas where Tunisian businesses are actively seeking expanded resources or technical support. It also outlines the longer-term hopes and desires of Tunisian entrepreneurs in the post-revolutionary period. Finally, it identifies some existing programs that are successfully supporting SMEs, so that they might be replicated or expanded.

THE SME EXPERIENCE

These are some common frustrations and desires expressed by entrepreneurs from various sectors of the Tunisian economy:

PAIN POINTS

○ Uncompetitive business practices encouraged through the patronage systems of the previous government.

○ Difficulties with foreign exchange caused by government limitations.

○ Bureaucratic inefficiencies within contracting and procurement processes.

○ Lack of secure, reliable payment touchpoints for online and mobile consumer transactions.

REQUESTS

○ More opportunities for training and engagement with multinationals.

○ Training in product research and development.

○ Increased respect from international partners that leads to higher-value contracts and engagements.

○ More mentoring, soft skills, and applied business training.

Demands for Change Requested by SME Entrepreneurs:

Recognition That Their Addressable Market is Regional

Many Tunisian businesses see their markets as regional, not just national. With their geographic proximity to and linguistic affiliations with Western Europe, the Middle East, and North Africa, this is not merely wishful thinking. Too often, investors and partners focus only on Tunisia's small population and ignore the size of the true addressable market of local businesses. As regional neighbors Libya and Egypt undergo significant economic changes, attractive opportunities are arising for Tunisian businesses with existing ties to those countries. The recognition of Tunisia's business potential at a regional level is critical to the development of more accessible growth capital and investor support of local businesses.

Investment in Improved Digital Infrastructure

An online economy requires robust digital infrastructure in order to grow and flourish. The immature Tunisian digital infrastructure currently falls short of local entrepreneurs' demands for systems that are competitive with their European neighbors. Some commonly cited needs include a reliable online consumer payment gateway service and looser data controls for geographic information systems. Developments in these areas would particularly aid web application developers, who are eager to launch Tunisian equivalents of US-developed services such as eBay, Yelp, and Craigslist.

A More Responsive Bureaucracy

As the Ben Ali bureaucracy grew over time, conducting business became increasingly difficult for enterprises without connections among the ruling elite. For example, well-connected businesses were able to receive special bank accounts friendly to foreign exchange, while others have difficulty moving currency across borders. Similar frictions exist within the customs and export sectors. Improved responsiveness at these bureaucratic touchpoints would reduce unnecessary barriers for entrepreneurs.

A Competitive Business-to-Business Ecosystem

Many important global business-to-business (B2B) logistics and payments providers have limited presence in Tunisia, and those that do charge significantly higher fees for their services. This is primarily due to the increased costs of doing business in the country. The tight regulation of critically important trade networks, such as PayPal, the global payment platform, demonstrates how government over-regulation restricts SME growth. Increased access to these providers at more competitive rates would reduce restrictive costs for Tunisian entrepreneurs. This is particularly important for those that hope to serve consumers in foreign markets.

SUPPORTING SMEs:
Learning From What Works

Multinational companies (MNCs) operating in Tunisia recognize the constraints faced by local businesses. As a result, many MNCs realize the benefit of developing a local value chain for business that is consistent and reliable, and several have launched their own initiatives to support the development of SMEs (particularly those in the information technology sector). Some of their activities have included:

Microsoft

The Microsoft Innovation Center houses entrepreneurs and provides soft skills training and mentoring.

Through government partnerships, the Center filters and selects top entrepreneurs for government investment.

CISCO

Cisco Networking Academy provides critical applied training and soft skills to post-graduate engineers.

Internationally-based Cisco projects are used to open access to foreign markets for Tunisian engineers and small businesses.

hp

Hewlett-Packard maintains a standard-setting office park that helps demonstrate the value of good infrastructure.

The company is helping local businesses move up the value chain through more sophisticated services, such as business process outsourcing and advanced logistics.

Google

Google User Groups provide resources and community-building support to entrepreneurs.

The team behind Google's mobile operating system, Android, has been supporting the local developer community, fostering one of the first advanced smartphone developer groups in the region.

BUSINESS INCUBATORS:
Revising an Old Model for a New Environment

Countries as diverse as Jordan, Brazil, and Indonesia have used business incubators to promote the growth and development of SMEs, particularly in high-growth sectors such as technology and clean energy. While the incubators take a variety of forms, their core purpose is to provide infrastructure, skills, and training to help entrepreneurs build successful, high-growth companies.

In 2001, as part of a larger strategy to grow the country's knowledge economy, the Tunisian government made a decision to invest in business incubation. Ben Ali was known, in some global circles, as a "strong sector picker," and in recent years, he invested heavily in Tunisia's technology sector.[2] Incubators were a key piece of that investment, and were housed in a series of technoparks, with a heavier distribution in better-resourced coastal regions.[3]

Despite the promise of this model, these incubators have struggled to produce results, often because of shortcomings that mirror larger challenges faced by Tunisian businesses. In many instances, government officials used the incubator platform as a patronage program, a reality reflected in the profiles of incubator staff. Many who are charged with dispensing business advice to entrepreneurs have themselves never held a private-sector job. Additionally, many of the incubator staff interviewed for this study had received their job placements immediately after finishing university, without ever developing their own professional experience.

A consistent weakness of the Ben Ali regime was creating development initiatives that looked promising on the surface, but ultimately lacked measurable impact. The metrics established for judging incubator success epitomize this, as they fail to paint an accurate picture of their contributions to the economy. Incubators are evaluated based on imprecise indicators, such as occupancy rates and number of foreign visitors. Many stakeholders in the incubator community would prefer to see their performance measured by total revenue earned, jobs created by resident companies, or other indicators that track more accurately to the amount of economic value generated by incubator activities.

Despite these weaknesses, the existing incubators are relatively well-distributed across the country and provide an infrastructure that can be improved and iterated upon. While some incubator staff lack in the soft skills and training necessary to support business success, the incubators' physical locations are nonetheless useful for lowering start-up costs for entrepreneurs. Likewise, because they are housed in technoparks, incubators often have better access to ICTs than the surrounding region.

Finally, awareness of these incubators is building demand for more government support of SMEs. Investments in the incubator programs have also signaled to interested parties, both domestic and foreign, that there is a growing community of new businesses in Tunisia.

> Despite the promise of this model, these incubators have struggled to produce results.

Incubator Stakeholders

	OFFSHORE WEB DEVELOPER	**APPLICATION ENGINEER**	**MINISTRY OFFICIAL**
AGE + BACKGROUND	25, lives in Tunis, educated in France.	23, lives outside Sfax, educated in Tunisia.	40, lives outside Sfax, worked in a major incubator for two years.
COMPANY	Web development company with 10 employees.	Enterprise application development company with three employees.	Official with a ministry that supports incubators.
GOALS	To gain a foothold doing front-end design and product development for his clients.	To secure a stable and profitable contract with a public-sector client.	To help the entrepreneurs at her incubator create jobs and economic wealth.
CHALLENGES	His company is stuck in a low position in the value chain, currently relegated to low-level back-end technology development.	Poor technology infrastructure at second-tier incubator. Colleagues lack training in advanced technologies.	Construction at her incubator was stopped soon after it began. The building is unfinished and lacks equipment and staff.
DEMANDS FOR CHANGE	Improved job training among his new hires. Expanded support for marketing and outreach efforts to Francophone companies.	Improved services at the incubator, including reliable internet and increased training.	The continued development of her incubator's facilities and some new investment in their training programs.

Improving Incubators

Gaps

Incubators fall short in delivering on their promises to entrepreneurs in several categories:

METRICS The success of incubators is often evaluated by inappropriate metrics—such as occupancy—rather than job creation, revenue growth, or other measures of economic impact. The measure of overall incubator effectiveness is thus distorted and does not capture their true inefficiency.

QUALITY OF INSTRUCTION Incubators lack staff with applied experience. Similarly, incubators struggle to find appropriate mentors for entrepreneurs. Both of these challenges could potentially be met through expanding ties with the private sector.

INFRASTRUCTURE Some high-profile incubators, such as the original site at El Gazala Technopark, the oldest and most prestigious in the country, have top-quality physical and technical infrastructure. Others however, stand empty, with inadequate equipment and/or intermittent network connectivity.

Areas of Improvement

Many incubator stakeholders, including programmatic staff and resident entrepreneurs, expressed common requests for improvements:

- Combine the existing programming from multinational companies with incubator activities and expand the development of public-private partnerships.

- Create formal partnerships for training and apprenticeship between SMEs and university students to develop soft skills and applied knowledge for new hires.

- Realign performance metrics with true economic indicators so that incubators can be held accountable for the quality of their support for entrepreneurs.

- Expand engagement with foreign companies to increase knowledge sharing and access to foreign markets.

Conclusion:
E-GOVERNANCE:
An Opportunity for Growth

E-governance—the tools, technologies, and processes that facilitate the business of government—is a rapidly growing sector in many markets. Globally, the field's roots go back at least to the 1960s. In countries such as the United States, Germany, and Lithuania, the sector has driven the high-speed growth of small and medium-sized technology firms, eager to capitalize on public spending.

In Tunisia, as with most of the Middle East and North Africa region, the sector remains largely undeveloped, providing a rich opportunity for growth among SMEs with advanced software and business process capabilities. Unfortunately, the market for e-governance applications is largely off-limits to these willing entrepreneurs. Like many other attractive markets, e-governance is currently controlled by a public entity, Centre National de l'Informatique (CNI).[4] For all intents and purposes, CNI holds a near-monopoly on the enterprise information technology systems used by the Tunisian government.

Despite reports of poor performance from these products and services, the near-monopoly was historically protected by the government.[5] Yet in the current transitional period, SMEs with strong

engineering resources have a hungry eye on this market. They see an opportunity to break into a global market by using the Tunisian government as a "buyer of first resort" for their enterprise systems.

Allowing Tunisian companies access to these business opportunities will require a substantive shift in the role of CNI, as well as in the policies that mandate its monopoly. Many respondents, both within the government and from the private sector, would like to see CNI transition to a new role as technical project manager for the Tunisian government, relinquishing its role as primary product developer and becoming instead the primary administrator of competitive technical contracts.

Since Arabic is the mandated language of all government systems, an opening of this market could allow Tunisian enterprise software developers to create products that are easily deployable to a much larger regional market. In addition to benefitting Tunisian enterprise, it also has the capacity to improve the operations of other governments in the region through more efficient products and services, such as payroll and benefits administration databases.

The knowledge economy may very well secure Tunisia's upward trajectory in the global economy.

SPOTLIGHT: Centre Nationale de l'Informatique (CNI)

OVERVIEW

YEAR ESTABLISHED

1975

EMPLOYEES

200
including:
87 engineers
26 technicians

LOCATION

Tunis

CURRENT EXECUTIVE DIRECTOR

Mr. Abdelhak Kharraz

HISTORY

CNI was founded in 1975 by the then-new Ben Ali government to handle technical product development and associated services for all government agencies and offices. By centralizing this role in one administration, the President quickly took control of an important emerging market segment. In recent years, CNI products and services have earned poor marks from their government users.

SERVICES PROVIDED

○ Technical product development, including intranets, enterprise resource planning tools, internal collaboration platforms, web applications.

○ Data storage and backup.

○ Training and implementation support for ICT systems.

○ ICT needs assessment for government offices.

SAMPLE PRODUCTS

INSAF is a human resource management system. Its purpose is to manage staff identities, benefits, and other human resources data and activities.

ADEB is an enterprise resource planning system that allows for shared budgeting and accounting functions across agencies.

USER QUOTES

"INSAF is a complete fraud. Employee benefit information would mysteriously change when someone was getting a favor, or being punished by a superior."
      Executive Director of a public benefits management office

"We stopped using ADEB a couple of years back. It worked so poorly, we spent more time trying to set it up then actually budgeting. We're back to using paper ledgers for most of our accounting needs."
      Ministry of Higher Education official

WHY IT MATTERS

Tunisians in both the public and private sector would like to see CNI transition away from product development and into a new role as technical project manager for the government. This would allow CNI to leverage technical resources to protect government interests while simultaneously spurring growth in a high-opportunity sector. This would also remove command of sensitive and easily manipulated resource management systems out of a single, centralized control area, potentially decreasing opportunities for government corruption.

Capable Challengers to CNI's Monopoly

Several Tunisian firms seek to develop software and other technical services for the government. Here are brief snapshots of two of the willing competitors to CNI.

Company 1: Progress Technology, Inc.

BACKGROUND
Progress Technology, Inc. was founded in 2001 as an enterprise software provider. It develops advanced information management systems for a variety of functional areas. The six-person company currently works out of one of the country's top technoparks.

INTEREST IN E-GOVERNANCE
The firm has an enterprise-grade user registration system with diverse application possibilities, from buying concert tickets to registering for school courses. Progress Technology has been working for years to sell this platform to the Ministry of Higher Education to handle student registration and course management at the university level.

DEMANDS FOR CHANGE
Progress would like to see the government procurement process become more competitive. Its contacts with the Ministry of Higher Education have been continuously broken off when previously disinterested government officials got involved in the conversation to put a stop to contract negotiations.

Company 2: Advanced Technology, Ltd.

BACKGROUND
Founded in 2005, Advanced Technology, Ltd. is a mobile application development company. It has expertise in many mobile operating systems, ranging from simple SMS-based programs to advanced Android and iOS applications. Its primary customers are European technology firms.

INTEREST IN E-GOVERNANCE
Advanced Technology would like to see the Tunisian government take advantage of the high penetration of mobile platforms among Tunisians. It has proposed numerous mobile versions of existing government applications that would make it easier for citizens to interact with government services and to access government information.

DEMANDS FOR CHANGE
Advanced Technology has found a shortage of advocates within the government for the use of mobile applications. Its team feels that the government needs more internal decision-makers with a strong understanding of new technologies, and how they improve customer service and increase overall citizen satisfaction. ○

Example organizations are based on real companies, but their names have been changed for anonymity.

INVESTING IN THE FUTURE: TUNISIA'S HIGHER EDUCATION SYSTEM

This section introduces Tunisia's higher education system and its stakeholders, and illustrates both the positive and negative aspects of the student experience from high school through university. It also explores the footprint and social dynamics of the higher education system, and reviews some initiatives that may help the sector—and by extension, the country—realize its potential.

INSIDE THE CLASSROOM:
Higher Education in Tunisia

It is a Tuesday afternoon session of "eTourism", a popular course at a coastal university. There are about 30 students in the classroom: well-dressed and friendly men and women in their early 20s; most hail from the region surrounding the university. Written on the board are the topics of the day:

> 1) Types of tourism
>
> 2) Sites of tourism / World / Tunisia—post-Revolution—Tourism of the Revolution
>
> 3) ICTs and Tourism:
>
>> Advantages and inconveniences
>>
>> eTourism
>>
>> What do we mean by eTourism?

The room has rows of worn chairs and tables, a desk for the professor, and no apparent electronics. The students, graduate-level scholars of management and tourism in their final year of a three-year program, are staring intently at the notebooks on their desks. Their instructor is a kindly yet stern man in his 30s with a strong French accent (he studied in Toulouse, France). He dictates the day's lesson:

"What tourism was like before and after the revolution," he reads aloud, pausing between phrases so that the students can write. "Before, we saw the tip of the iceberg, but not the whole thing." He explains that Tunisia's hotels, though beautiful, were empty most of the year; the infrastructure was in place, and there were "touristic products" to purchase, but service was mediocre and marketing was absent. Tunisia has only two schools of hospitality, he notes. He also makes clear that corruption in the old system hindered industry progress.

"Now, we need 'sense marketing,' so that clients can smell, taste, and hear the experience—so that they can *voyager sans se déplacer* [travel without leaving home]. We will use technology, like television and websites, to make that happen.

"We can even develop *un tourisme de la révolution* [revolution tourism], including Sidi Bouzid, the wall graffiti, and conversations with bloggers."

He breaks the French-language dictation with some Arabic-language commentary: "You know, there was a travel agency that did this. They charged 700 dinars [about US $460] for two days!" Hearing the high rates that "revolution tourism" could command, the students murmur their appreciation.
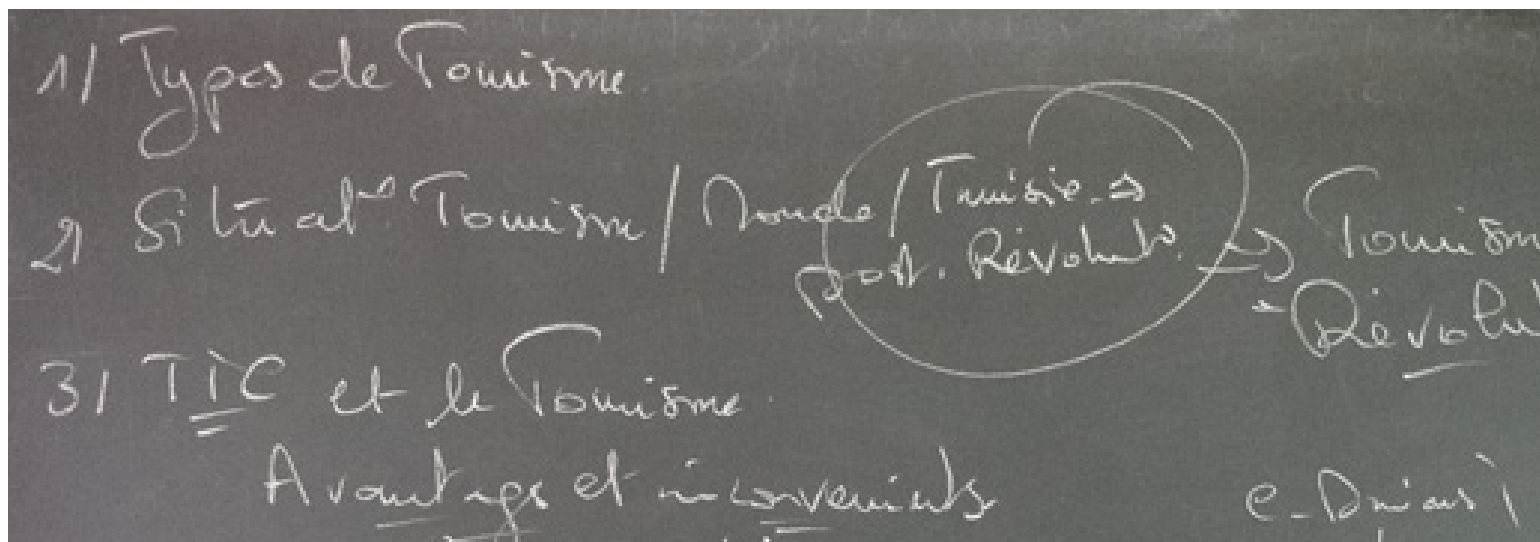
Getting up from his desk, the instructor asks the class to define "sense marketing." The students hazard a few guesses before he clarifies the definition, which the students all write down dutifully. After a bit more discussion, the professor sits back down and continues reading in French: "Tourism in Tunisia is based along the coast…"

When interviewed, the students say they like the class—the professor is more captivating than most, and the curriculum gives them a sense of possibility for the future. Having come from coastal areas, the students understand the business of tourism. Most seem committed to their studies and all are optimistic about Tunisia's great potential. For these students, tourism is both economically important to the country and a way of helping Tunisia be a part of the global community.

Flush with opinions about how the industry they are studying should change, the students see Dubai and its luxury experiences as one role model. They are hoping to develop golf, ecological, and beach tourism, all of which they believe are attractive to wealthy customers. They speak of the importance of highly competent personnel and quality customer service, concepts they have learned about in class. They want to move away from all-inclusive tourism, in which large hotels satisfy all of the customers' gustatory and recreational needs. This model, they say, unfairly keeps all of the money in the hands of hotel owners—mostly rich businessmen who were connected to the Ben Ali network—instead of stimulating the local economy.

But in order to make the changes they envision, these students may need more practical experience than their university currently provides. Based on the French model, the teaching methods and curriculum at most Tunisian universities tend towards the theoretical.

These third-year students are considered relatively advanced in the Tunisian university hierarchy. They would likely benefit from methods designed to encourage critical thinking. Analyses of real world case studies or experiential learning would both be valuable, but are absent from their classes.

The professor for e-Tourism, for example, does not ask his students how they might measure a potential market for revolutionary tourism, or challenge them to brainstorm ideas for implementing a sense

KEY INSIGHTS IN THIS SECTION:

Key challenges for education include poor infrastructure, a curricular focus on theory over practice, and a faculty corps of uneven quality.

The human capital of the education system—teachers, administrators, and students—see a need for improvement and are primed for greater use of technology.

An expansion of experiential learning programs would satisfy both business owners and students.

Student demand, educational infrastructure, political support, and access to the resources of technoparks can be leveraged for success moving forward.

marketing campaign for local beaches. When asked how technology has changed the way they think about tourism, they rattle off concepts—online reservations, video marketing, rewards programs—but when pressed, the students cannot articulate how they would implement these services or products.

This is due, in part, to systemic and structural challenges faced by Tunisia's educational institutions. There is evidence that the previous government tightly managed administrative education positions as a tool of economic manipulation and patronage. This has led to a system that values centralized control over innovation and student learning outcomes.

As a result, the higher education system suffers from some critical deficiencies, including poor infrastructure, a faculty corps with little practical experience, and an overwhelming focus on theory-based pedagogy. These do a disservice to both students and the wider economy.

Yet despite these challenges, there are promising opportunity areas in the education system. With the right interventions, Tunisia could make significant progress, both for its students and for the country at large.

MEETING THE PARTICIPANTS:
Stakeholders in Higher Education

Classroom observations such as the one just described offer a snapshot perspective of how universities currently function in Tunisia; conversations with students, professors, and administrators help paint a fuller picture of the human needs within these critical institutions.

The following profiles (archetypes constructed from multiple respondents) are based on these conversations, and will serve to introduce Tunisia's educational stakeholders, the impact of technology on their lives, and the challenges they face in navigating the educational system.

UNIVERSITY PROFESSOR

Demographic
A 48-year-old male from the Nabeul region.

Education
Has a PhD in Business Administration from Toulouse University, a Master's of Science in Management and one in Information Technology from European universities, and a Bachelor's in Economics and Management Sciences from a Tunisian university. Currently working on postdoctoral research on e-governance.

Occupation
Professor, focusing on ICTs and their applications in government and business. Has won many awards for his publications.

Challenges
Lacks applied or industry experience in the fields he teaches. For example, he teaches entrepreneurial strategy, but has never launched a business or worked in industry. His lectures thus focus on theory and concepts alone, with little real-world or first-person examples.

Use of Technology
Uses a feature phone and a laptop, knows Microsoft Office, is a heavy user of Facebook, where he posts commentary, articles, and videos of musicians he likes.

UNIVERSITY
ADMINISTRATIVE STAFF

Demographic

A 45-year-old female , originally from Sfax.

Education

Educated at a local technical institute for administrative operations. She has also received some on-the-job training when new technical systems were introduced.

Occupation

Administrative employee at a coastal university. Responsible for coordinating university schedules, exams, and professor salaries.

Challenges

Since the revolution, the rules and regulations governing university administration have changed. A new layer of administration had been added between her and her long-time boss, leading to worsened communication, a lack of clarity about the chain of command, and deteriorated relationships.

Use of Technology

She has been using a Microsoft Access database made by the school's administration to coordinate schedules. At work, she uses the Internet to check Facebook or her personal email. She rarely uses her work email, as most staff members prefer to coordinate by phone.

GRADUATE STUDENT

Demographic

A 23-year-old female graduate student from the Nabeul region.

Education

Master's student studying management and economic sciences, with a focus on tourism and technology. Intends to finish her studies, find a job, and then likely get married. Similar to most young women, marriage might cause her to leave her job and focus on her family, as she believes it would be difficult to do both.

Career Goals

Has completed a *stage* (internship) over the summer through a local technology center that connects companies with students to complete discrete projects. She was tremendously excited about the project, and is proud of the technology tool she had been asked to develop—it was the first time she had been able to turn theory into practice.

Challenges

As a female studying technology, she said that she did not face any challenges specifically related to her gender. Indeed, she said: "We [women] work harder than the men!" Her major obstacle is the lack of opportunities to apply the knowledge that she has acquired in school. She desperately wants work experience to test her education and improve her resume.

Use of Technology

In addition to her use of mobile phones, she and her female colleagues have built small databases, internal directories, online libraries, and dynamic websites for their summer internship projects. They have moderate command of Microsoft's .NET development environment, and were keenly interested in learning new technologies like Google's Android OS.

MAPPING THE EDUCATION SYSTEM:
Structure, Function, and Gaps

The experiences of these individuals—such as the graduate student's frustration with a lack of opportunities to put her knowledge into practice, and the administrator's lack of clarity about new university leadership rules—are not unique: conversations with university stakeholders show that similar concerns are shared across the country.

This similarity is due in large part to the way the education system is structured. Both pain points and opportunities are embedded in the centralized nature of the education sector as established under Ben Ali. Under the old regime, the university system was managed by the Ministry of Higher Education and Scientific Research (MoHESR). Many of the challenges faced by the university system are in part a result of this legacy structure. Stakeholder interviews suggest that even with the new government, MoHESR is likely to retain control of public university education in Tunisia.

In analyzing these challenges, three elements of the university system structure are especially noteworthy:

1. **FLOW** The ranking system that directs the flow of students from high school through higher education.

2. **STOCK** The uneven distribution of educational resources across various parts of the country.

3. **CONNECTIVITY** The availability of Internet access at Tunisian universities.

Flow: Mapping the Road to Public Education

To show how citizen educational outcomes are largely guided by state-centralized decision processes, the following infographic tracks the path of a typical Tunisian youth from high school to university. While students across the country can expect the same process as they progress through school, their access to more valuable educational experiences is largely dependent on their family background and geographical location, in addition to individual school performance.

Students in Tunisia are assigned to their university studies based on their performance in high school—without much regard for personal aspirations. Not all tracks are considered equal: engineering, medicine, and architecture, among others, are much more prestigious fields and are reserved for students who rank highly.

This prestige does not always translate into later success: there is an overabundance of engineers, for example, and not enough engineering jobs. Even less prestigious employment options can be difficult to find, and many Tunisians find themselves employed in occupations chosen out of necessity rather than aspiration. This misalignment of student ambition with available courses of study and post-graduate employment options has resulted in distortions in the economy and a lack of faith on the part of students in Tunisia's higher education system.

THE EDUCATION OF NESRINE

Tunisia's education system is designed to sift and sort students based on their performance in high school, with little regard for personal interests and aspirations.
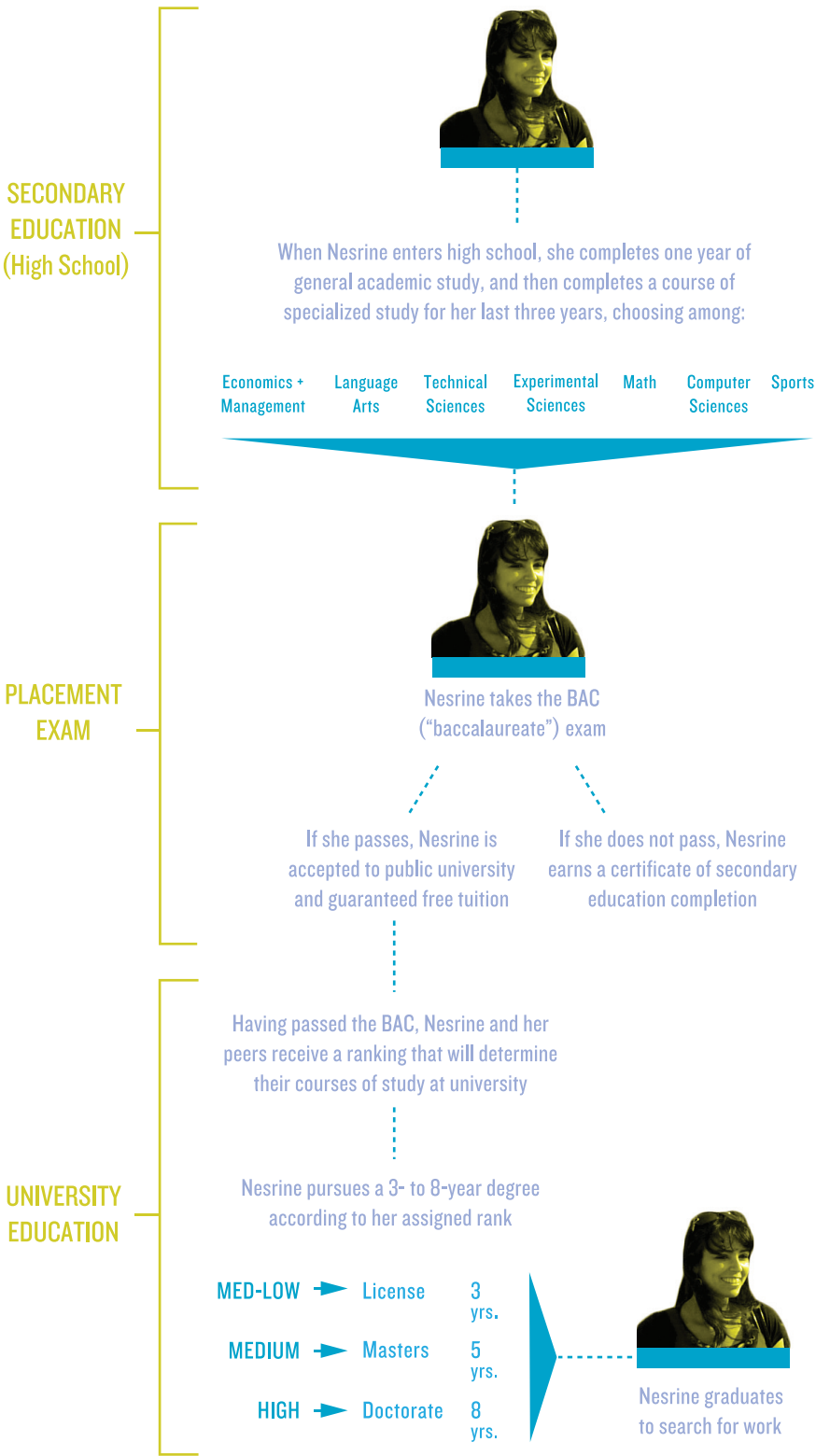
Meet Nesrine, a young woman from the Sfax region of Tunisia

SECONDARY EDUCATION (High School)

When Nesrine enters high school, she completes one year of general academic study, and then completes a course of specialized study for her last three years, choosing among:

Economics + Management Language Arts Technical Sciences Experimental Sciences Math Computer Sciences Sports

Starting from the age of 14, Nesrine has the option to pursue vocational education. If she chooses, she can leave high school after 2 years of general academic study to follow a vocational track or enter the workforce.

PLACEMENT EXAM

Nesrine takes the BAC ("baccalaureate") exam

If she passes, Nesrine is accepted to public university and guaranteed free tuition

If she does not pass, Nesrine earns a certificate of secondary education completion

The BAC is both a qualifying exam to complete secondary education and an entrance exam for the public university system.

Students who do not pass the BAC may enter private university or enter the workforce directly.

UNIVERSITY EDUCATION

Having passed the BAC, Nesrine and her peers receive a ranking that will determine their courses of study at university

Nesrine pursues a 3- to 8-year degree according to her assigned rank

MED-LOW ➤	License	3 yrs.
MEDIUM ➤	Masters	5 yrs.
HIGH ➤	Doctorate	8 yrs.

Nesrine graduates to search for work

A student's academic ranking is based on an algorithm of:
- BAC score
- Ministry-set quotas
- Secondary education academic focus
- Personal preference

A significant proportion of students, according to expert anecdotal sources, drop out of university before they graduate. Generally, women leave school to get married, while men do so to enter the workforce.

Stock: Uneven Educational Resource Distribution

While all students are similarly directed through the same flow of the higher education system, the availability of educational resources within Tunisia—the "stock"—is not so uniform. The following map shows the geographic distribution of institutions of higher learning in the country, accompanied by affiliated research centers and technoparks.

As the map shows, some regions of the country are more concentrated with educational resources than others. In addition to this issue of quantity, there is a challenge in quality: the depth of offerings (as measured by the number of departments per school) is much richer at some institutions than at others. As in many countries around the world, the major cities of Tunisia host more well-resourced universities.

The majority of Tunisian students are likely to attend university near where they were raised, largely as a result of economic constraints. This means that many citizens' circumstances of birth are obstacles to their education, distancing them from the disciplines they desire to study.

The imbalances in both the quantity and quality of available educational opportunities mean that students in the south and west of Tunisia remain at a disadvantage. Not only do these interior regions suffer from the social and economic disparities discussed in previous sections, they are also isolated from the educational opportunities that might help alleviate their struggles.

Educational resources are highly concentrated in a few key areas—and sparse throughout the southern and western provinces.

DISTRIBUTION OF HIGHER EDUCATION RESOURCES[1]

The distribution of higher education resources aligns with larger patterns of national resource allocation. The majority of leading universities are found along the coast and in wealthy cities such as Tunis and Sfax.

Bizerte

Jendouba

Beja

Nabeul

Ben Arous

Zaghouan

Sousse

Monastir

El Kef

Siliana

Kairouan

Kasserine

Mahdia

Sidi Bouzid

Sfax

Gafsa

Tozeur

Gabes

Kebili

Medenine

Tataouine

Ariana

Manouba

Tunis

Ben Arous

Number of schools
and faculties of higher
education per province

44
16–22
10–15
6–9
3–5
1–2

Universities ●
Research Centers ●
Technoparks ●
Planned Technoparks ○
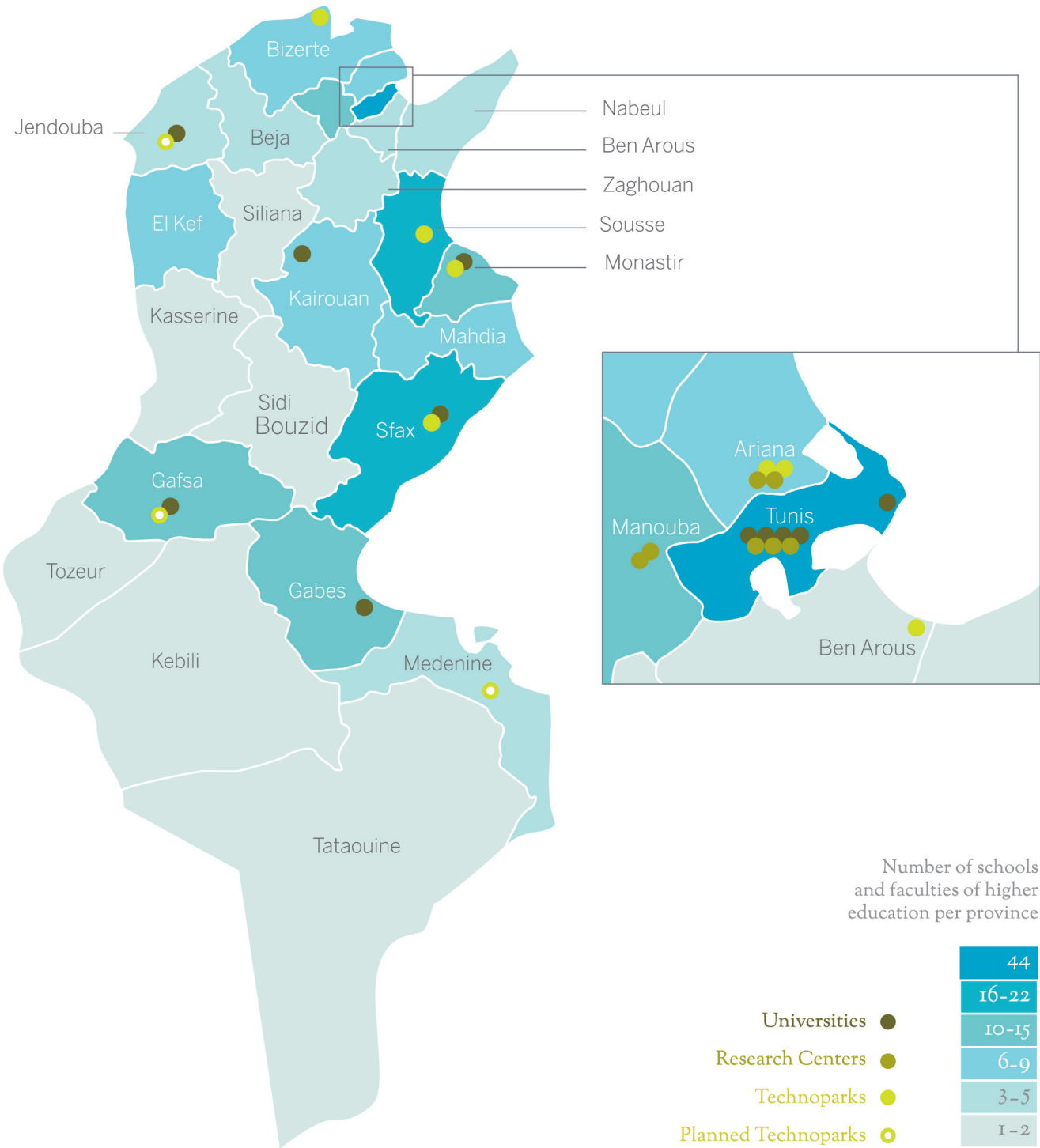
Connectivity: Internet Deployment at Universities

For any educational institution in the 21st century, a robust network infrastructure is critically important—for internal communication, administration of student resources, and student engagment, as well as myriad other efficiencies. This fact was not lost on the Ben Ali government, which did direct resources towards developing Internet connectivity on university campuses.

In 1997, the Tunisian Ministry of Higher Education and Scientific Research launched the Réseau National Universitaire, (National University Network, or RNU). This initiative was intended to implement a mesh network alongside a set of applications and services (email, remote resources, videoconferencing, etc.) to connect all academic institutions, research laboratories, and administrative services.

The same year, a specific Internet access supplier, Centre de Calcul Khawarizmi (CCK), was created to manage this project. RNU was later complemented by RNU 2, a project launched by Ben Ali's electoral program aimed at developing a more sophisticated broadband infrastructure. The program sought to include intranets at three levels: 1) for the entire higher education system, 2) for each university, and 3) for each school.

Research currently indicates that out of over 170 higher education institutions, only 15 are benefitting from this infrastructure. The Ministry reports that there are 380,000 total "RNU users," including 314,146 students (out of a total of 346,876 in 2010/2011) and 14,607 teachers (out of 21,552). However, it remains unclear how these "RNU users" are defined, as there are only 26,050 active users with email accounts (students and teachers included).

However, there are a few assets currently in place which may contribute to transforming the educational system into a robust network of universities. First, the infrastructure footprint, while in need of support, is at least in existence across the country. Second, awareness exists: students, faculty, and administration, to a large extent, acknowledge a need to be connected to information, opportunities, and each other for better educational outcomes. Finally, existing partnerships between MoHESR, multilateral donor institutions, and foreign companies could be leveraged to implement university network improvement projects through public-private partnerships.

Of critical importance
to any 21st century
educational institution
is a robust network
infrastructure.
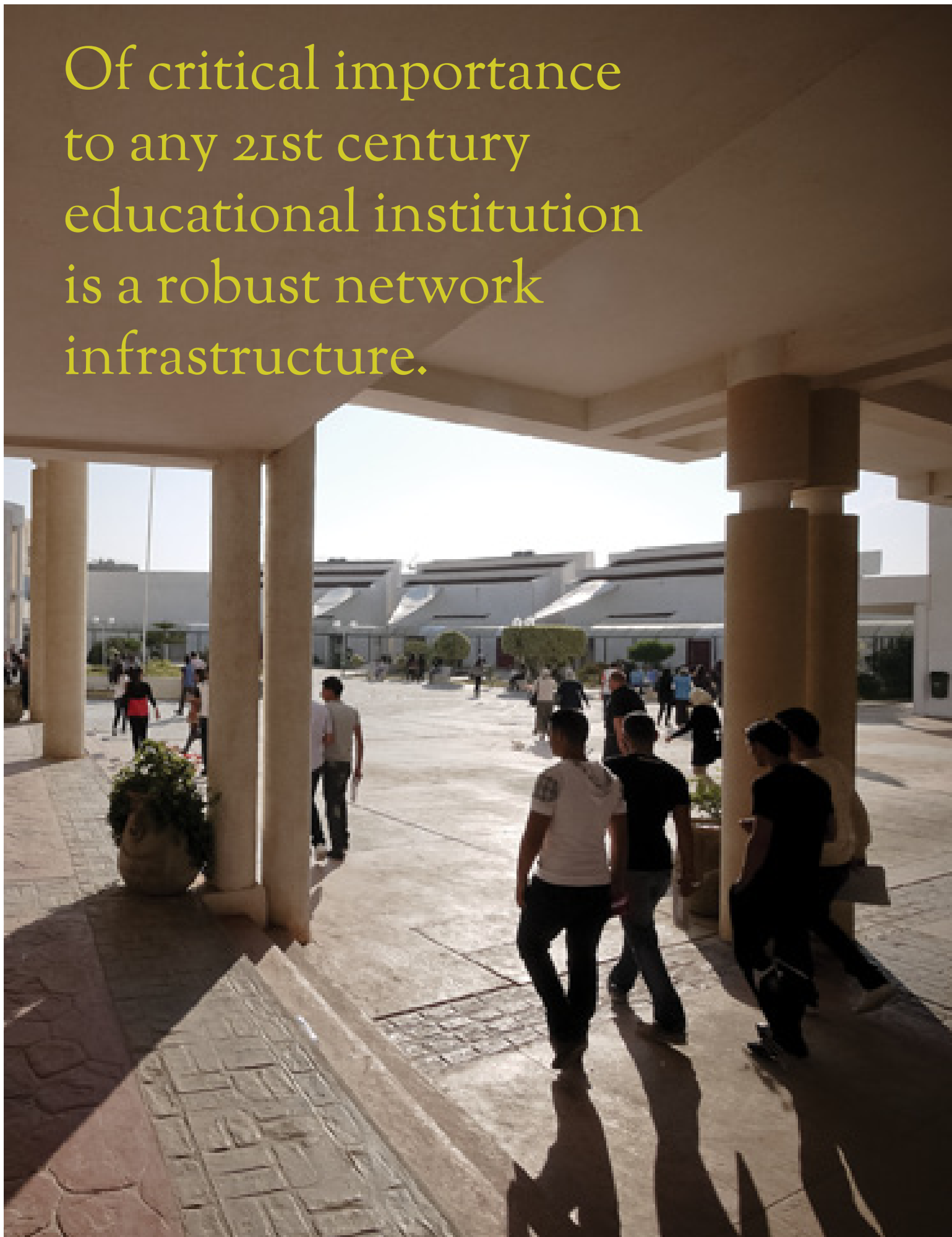
PROMISING CHANGES:
A Secondary Revolution Among University Leadership

The Tunisian university system is currently undergoing changes in its administrative management. While these changes in the structure of authority may introduce some short-term inefficiencies, recent shifts stand out as promising examples of increasing accountability and transparency in Tunisian policymaking.

The MoHESR is responsible for staffing public universities. Under the Ben Ali government, staff appointments were largely biased, with personal connections trumping professional merit. Today, there are indications that this model is beginning to change.

In August 2011, university councils voted for the first time to elect the presidents of universities and directors of engineering schools. Previously, MoHESR appointed these roles; faculty deans were the only positions put to a vote, and staff participation was low. The new education system establishes an academic review board for each university, comprising five professors and five assistant professors, who act on behalf of the staff at large. This board administers elections for the university council, which in turn elects the university president.

Criticisms have been leveled against this new policy, especially by university union representatives. University professors and researchers have called for a more direct voting process. Their concerns are valid: as only elected university council members are eligible for candidacy, there remains a loophole in instances where no member applies to be a candidate. In that event, the current president of the university names a professor for appointment by MoHESR. This essentially reopens the door to the possibility of pre-revolution nomination practices.

Still, according to most Tunisian press, there was high participation in the academic elections in August, and the elections seemed to be genuinely changing the old system. The recent class of elected deans and presidents are, by and large, nonpartisan academic personalities. For example, Chokri Mabkhout, a previously marginalized moderate democratic figure in Tunisian civil society, was recently elected by an overwhelming majority to lead the University of Manouba.

Key Challenges for the Higher Education System

These three structural factors—the student experience (or flow), distribution of resources (or stock), and Internet capacity (or connectivity)—are at the heart of deeply important dynamics in the higher education system. Comparing the compounding interactions between these factors reveals key challenges facing the future of the education system, and thus the future of the country at large.

There exists an imbalance between supply and demand for university graduates.

According to 2011 budget figures released by the Tunisian government, more than 30 percent of the country's entire annual budget went to the Ministry of Education and the MoHESR. By comparison, the famously powerful Ministry of the Interior received less than one-third of the budget allotted for education. If these government figures are accurate, then this public spending on education, as a percentage of GDP, is among the highest in the world. Media outlets project that university student enrollment may continue to increase; given the country's widespread un- and underemployment, this increase may be particularly problematic, as most students leave school without being fully prepared for high-value, export-driven sectors. If there continue to be more university graduates than the labor market can support, the lack of economic opportunities may undermine the current post-revolution sense of political liberty.[2] If that is the case, the country will be unable to maintain burgeoning commercial interest from multinational corporations.

Changes to the flow of the university structure will require new infrastruture and an improvement in stock.

If students are allowed to choose their course of study but are physicaly far from a university offering that course, new solutions will be needed to increase educational opportunities. This may be fertile ground for technological intervention: online courses help defy geographic limitations. But it will likely also require sustained public investment in digital infrastructure and university investment in developing online curricula.

Tunisia's human capital must be More effectively trained and channeled.

Tunisian students are well-educated and driven, yet they find it exceedingly difficult to obtain practical work experience or start their own businesses. When they graduate, their ability to accomplish concrete work tasks does not measure up to their mastery of theory. This causes inefficiencies for employers, who must commit additional time and resources toward training graduates to meet the demands of available jobs. To rectify this situation, significant efforts need to be made to train and upgrade the teaching capacity of universities.

Organizational capacity is limited by subpar technology and weak evaluation activities.

As evidenced in the course on e-Tourism, Tunisian universities have yet to develop a strong computer culture. Many faculty, administrators, and students do not use email, and they lack streamlined and user-friendly electronic systems. In many locations, the Internet is not a first or second means of contact or information-gathering for educational stakeholders. In part, this is due to poor infrastructure—schools are often over-crowded and facilities are aging, with poor digital network infrastructure and few, if any, reliable tools for managing information.

In addition, while a huge portion of the government's budget appears to be spent on education, the country lacks rigorous methods and tools for evaluating educational progress and tracking outcomes. While there is an arm of MoHESR, the Comité National d'Evaluation (CNE), that is tasked with the evaluation and improvement of education

initiatives, it appears to have been mostly inactive, especially in the past few years. There are no records of any evaluations being conducted by CNE since 2005, and a European Commission-funded evaluation and accreditation project completed in 2008 seems to be the most recent national-scale training program of any kind for approximately 30 university and MoHESR staff.[3]

Further, as is common with a state-controlled system, a lack of competition among institutions has hampered innovation in curriculum and professional development among faculty. Universities may need to decentralize management, creating a structure of individual university leadership and a process for spreading effective new teaching methods, in order to retain talented Tunisian students and faculty, who may otherwise seek education and employment elsewhere.

Frequent changes in university leadership and regulations present ambiguity and inefficiency for university staff.

There is an additional challenge in that the lines of authority in the university system have been in flux since the revolution.

Many universities report new layers of management between local administrators and MoHESR headquarters. The increasing democratization of university elections, as discussed previously, is a positive step. Although organizational experimentation can be useful during this time of change, ceaseless reorganization of university administration and regulations may insert unnecessary inefficiencies into the administration of critical education programs. In order to avoid ineffectual university bureaucracies, it will be important to align a nationwide educational vision and strategy with the appropriate organizational arrangement, funding streams, and management culture at the university level.

These challenges are deeply intertwined, and investments in each discrete area will resonate with the system as a whole. Investments in robust network infrastructure, high-quality information systems, staff training, and organizational evaluation may make a significant impact by helping university stakeholders coordinate communication, monitor student progress, manage faculty performance, and improve graduate quality for prospective employers.

LOOKING FORWARD:
Opportunities for Progress in Higher Education

The capacity gaps in the Tunisian higher education system are not unique to Tunisia. Graduates with limited applied training, curricula that are out of date with the modern economy, and a lack of appropriate evaluation methods are continuing challenges that education policy planners in many countries must address.

Yet some of the failings of the Tunisian system were likely driven by conscious decisions of the previous government. Fortunately, whether these deficiencies are endemic to the education system or the result of deliberate political choices, they may be readily addressed in the coming years through appropriate commitments of attention and resources. In addition to direct investment, progress can also be stimulated by expanding many existing programs and social patterns through careful, targeted interventions.

Success Factors

Tunisia benefits from several underlying factors that can support the continued improvement of its higher education system.

First, and foremost, there is immense demand for education among Tunisian young people. In part as a result of previous government use of education as an economic planning tool, the average young person has been conditioned to perceive higher education as a viable path towards economic advancement. While student trust in the "product" of university education can certainly be improved, there is a definite willingness to actively engage with new programs or initiatives. MoHESR therefore needs not spend its effort or resources on this demand side; rather, it can focus its improvements on the supply side by improving infrastructure and curriculum.

Second, while educational resources are largely concentrated in areas that enjoyed greater privilege under Ben Ali, there is still some educational infrastructure that is broadly distributed across the country. Many of these institutions lack necessary resources but they still provide a core educational platform that can be built upon. The value of a robust physical footprint should not be understated.

Third, Tunisian political leaders recognize the value of these existing resources, and conversations have begun to try and leverage them to improve the sector. For example, during a one-year anniversary commemoration of the self-immolation of Mohammed Bouazizi, President Moncef Marzouki announced investments in educational institutions in the marginalized town of Sidi Bouzid.[4]

Only time will reveal whether these plans become reality, but the public message of investing in education in communities with the most need is a positive sign. There is also an active, organized academic community at many universities committed to making progress toward these goals, and who can serve as partners in strategic investments.

Meeting student demand, building infrastructure, and continued political support are all key factors necessary for improving Tunisia's education system.
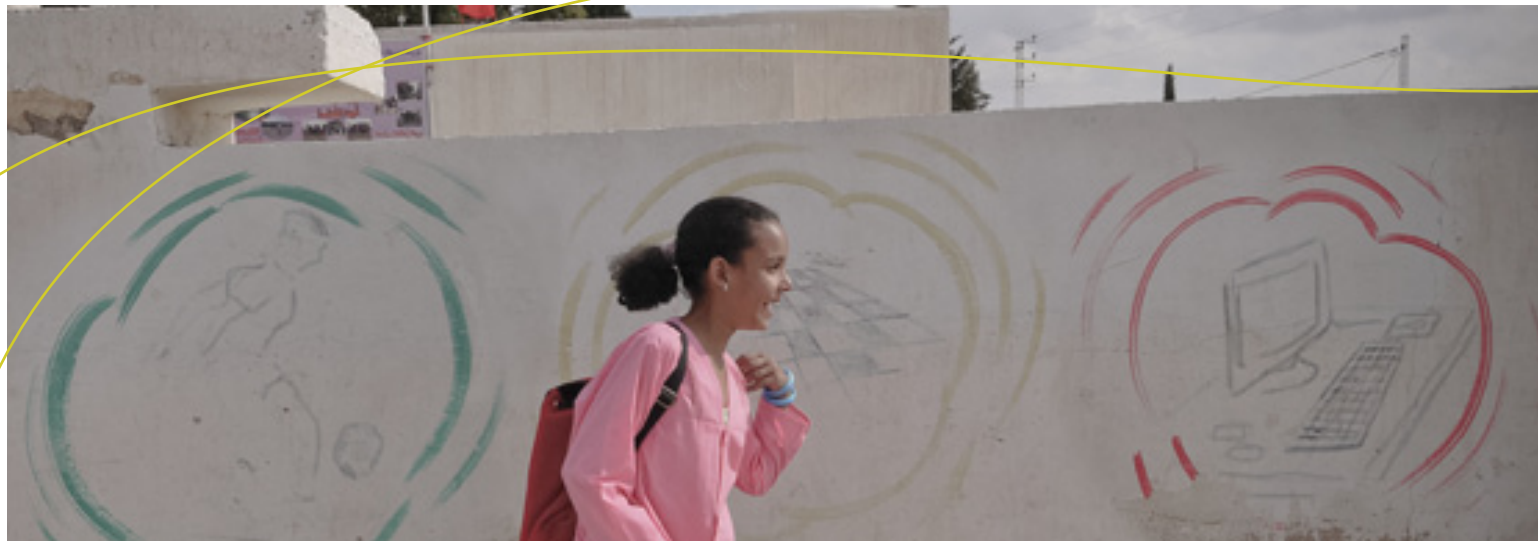
Finally, the existing collaboration between Tunisan technoparks and institutes of specialized higher education provides a robust model for continued progress in high-tech education. In their current mode, these collaborations are as much about co-location as they are about robust programming and training. There exists demand for further integration, and quick progress may be attained by investing in these potential centers of technical excellence.

Expanding on What Works

There are numerous areas of academic achievement evident throughout Tunisia. Where possible, these areas can be nurtured and improved through smart policies, strategic partnerships, and well-invested resources.

Learning from the Private Sector

Economically speaking, the Tunisian business community is keenly aware of the cost of an underperforming higher education system: graduates that lack applied knowledge require costly additional training in order to be employment-ready. Similarly, research and development centers that employ ill-equipped research teams produce results that are not internationally competitive.

These are serious threats to the success of a business, and unsurprisingly, some organizations have begun addressing these shortcomings through their own programs. Most notably, Tunisian subsidiaries of well-resourced multinational corporations have been steadily moving into the education and training of Tunisian graduates.

Cisco and Microsoft have both begun training programs that provide graduates with critical job skills. Cisco Networking Academy trains university graduates in network engineering as well as in soft skills, such as giving presentations and facilitating meetings. These classes can often last as long as a year, and are seen as necessary by local executives to make their human capital competitive in the regional market.

To address the number of graduates who are unprepared to launch their own companies after graduating from Tunisian universities, the Microsoft Innovation Center (MIC) is focused on developing entrepreneurial skills to create a healthy information technology value chain. Through competitions, classes, and a public computer lab, the MIC invests significant resources in training high-tech graduates of the Tunisian education system.

Expanding Applied Training Programs

Students, faculty, and business leaders are unanimous in their demand for an increase in applied education, and would like to see more opportunities for university and graduate students to work directly with businesses in their chosen career field.

Students see this as a necessary step to gain the skills they will need to be successful once they secure a job, while business leaders recognize these programs as a critical way to screen potential talent, as well as an opportunity to deliver training to potential hires before they take a salaried position.

Students and businesses alike acknowledge that existing programs fall far short of demand. One group of Tunisian university students was observed going door-to-door at different offices in a leading technopark. These students reported that knocking on doors was the only way they knew how to connect with organizations for a potential internship. Such students could be helped through the expansion of formal internship and training programs between institutions of higher education and the business community.

Technology and Self-Learning

Numerous examples from diverse contexts have shown that technology can greatly encourage self-learning among students. This behavior is already present among Tunisian students who have eagerly organized into self-learning communities around several specialized technical fields.

Graphic design students are forming visual arts clubs and teaching each other the Adobe Creative Suite software, with lessons and training materials downloaded from the Internet. Would-be programmers and developers are forming software clubs around technologies such as the Microsoft .NET framework, Google Android OS, and Ubuntu Linux.

All of these activities speak to how new technologies can enable students to manage their own learning, as well as access resources online that might not otherwise be available in their classrooms. These programs could be greatly improved if formally adopted on campus and staffed with willing administrators and faculty.

More broadly, an increase in the availability of broadband connections and modern information technology infrastructure at all campuses will also encourage these informal educational activities by giving more students access to digital resources that encourage self-learning. Formal programming on campuses, such as student groups and after-hours training, could incentivize more students to take part.

Achieving Results

While capitalizing on these opportunities is not a given—policymakers at MoHESR will need to embrace these new ideas, for instance—there are Tunisian voices pressing for the types of change outlined above. Leading policymakers remain adamant about building meaningful partnerships with the international community. The Tunisian business community is also eager to support investments in the education system. And, among students, there is a sense of possibility and hope in education for a new future.

With broad public consensus around the importance of education, a deficient but extensive existing infrastructure, and promising programs, the higher education system in Tunisia is well-positioned to support future economic growth. ○

BUILDING PARTICIPATORY POLITICS

This section covers the blossoming period of political transformation gripping Tunisia today. New institutions, new forms of expression, and new freedoms are encouraging a raft of participatory developments, including successful national elections in late 2011. Despite these positive developments, 2012 is not without risks. Powerful institutions will continue negotiating a new political model, and numerous structural challenges must still be overcome.

PARTICIPATORY CULTURE:
Filling the Political Vacuum

Ahmed may be young, but he has never let age get in the way of his passions. He's been driven by political fervor since the age of 14, when his cousin was unjustly imprisoned for a year by the Ministry of the Interior, and allegedly roughly abused. Over time, Ahmed's fury at his cousin's treatment became the source of a growing political awareness.

Hailing from a relatively wealthy family in Tunis, Ahmed enjoyed steady access to the Internet from a young age. Some of the Arabic language blogs he found online strengthened his political awakening as he found his own frustrations and anger reflected in the words of other young people from across the region.

In high school, Ahmed decided he was going to become a political journalist. He practiced his writing at every chance, but was frustrated that his school didn't have a student newspaper. His attempts at starting one were frowned on by school administrators, who knew of his political leanings and were unwilling to condone a platform for potential dissent. To work around these limitations, Ahmed wrote letters to numerous newspaper editors and television producers, but none of his thoughts were ever published.

Ahmed's actions did, however, earn him attention from government officials. By the age of 19, he was being routinely followed by plainclothes security officers. He found this surveillance both irritating and ironic, as all of his political efforts had already been effectively stymied. One day in a coffee shop, seeing an agent trying to be inconspicuous as he eavesdropped on his conversation, Ahmed decided to talk directly to his shadow. "Why are you wasting your time following me around?" he asked.

Ahmed reported that the agent looked at first shocked, then slightly chagrined, and said, "This is just a job. This is the only reliable work I can get." After that, Ahmed bought the agent a coffee.

Ahmed went off to university without ever finding an opportunity to express his political ideas. His weekly gatherings at coffee shops with friends and lengthy group SMS chats were the largest public spheres he had for political reflection. He was always frustrated at the limited audience of these gatherings, and he never felt his opinion had an impact on the social issues he cared about.

Ahmed's inability to find satisfactory channels to participate in the political discourse of his country was by no means unique to him. The reality of the previous era of Tunisian governance meant that meaningful political participation was limited to a small circle of

> **Ahmed's transition from complete frustration to complete political engagement reflects the course of many Tunisians.**

networked elites with close ties to the Ben Ali regime. Regular citizens like Ahmed were excluded from the discussions and institutions that determined the future of their country.

Political Participation Post-Revolution

This political vacuum has been replaced in the post-revolutionary period with an enormous—and unstructured—increase in political participation. Unshackled from the censorship and surveillance that was formerly an inescapable part of daily life, citizens like Ahmed are finding and testing newfound forms of political engagement. Pent-up demand is exploding in a frenzy of civic development.

In the early days after Ben Ali's resignation, Ahmed and a few friends launched a political journalism website. Wanting to tell the story of a new Tunisia to a broad international audience, they made a calculated decision to publish their content in English, believing they could have the greatest influence on local politics by helping shape international discourse on Tunisia.

Their site has grown quickly, and they routinely work with major press outlets around the world. Ahmed, now 22, has dropped out of university to focus on reporting full-time. He's covered the election campaign in his country, as well as traveled to Morocco and Libya to report on political developments among Tunisia's neighbors.

Ahmed's transition from complete frustration to full political engagement has been drastic: he has not only realized his dreams of becoming a political journalist, he has created a platform for political engagement with global reach.

Many Tunisians are similarly taking advantage of their new liberties and enjoying meaningful political participation. Nowhere is this more evident than in the flood of new political parties that ran in last year's elections for the constituent assembly. After decades of autocratic authority suppressed the development of political discourse, the process of creating new factions and building coalitions, which takes place over decades in participatory political systems, has played out in Tunisia in an abbreviated, hurried manner. The proliferation of political parties—104 filed for campaign privileges in the October 2011 election—was one result.

Despite the frenzy, October's Constituent Assembly elections were powerful evidence that Tunisia is moving towards a representative system of governance. The polls were widely celebrated as free and fair in their execution, and voter turnout was extraordinary, with participation of nearly 90 percent of registered voters, representing 70 percent of the voting-age population in Tunisia. However, the rushed nature of the political climate seems to have had a real effect on the outcomes: The Islamic Ennahda party, with its extensive organization

Tunisians are actively embracing their new access to political participation.

New forms of media, new modes of dialogue and debate, and an explosion of parties and factions have made the political landscape a paradox: its openness has made it prohibitively confusing. The result is a high noise-to-signal ratio in the marketplace of political ideas.

Tunisia sits at the crossroads of several critical geopolitical trends. Perhaps most importantly, the debate surrounding the role of political Islam is playing out in Tunisia without military interference, and with several examples of measured, healthy debate.

THE NEW TUNISIAN POLITICAL SPECTRUM

Ben Ali's fall has given rise to a multiplicity of new political parties. Their platforms and ideologies are as diverse as the revolution itself. The below graphic charts the relative distribution of these new parties across the political spectrum.

8 parties with
CENTER LEFT
ideology

10 parties with
ISLAMIST
ideology

9 parties with
PAN-ARABIST
ideology

28 parties with
CENTER RIGHT
ideology

17 parties with
SOCIALIST
ideology

23 parties with
CENTER
ideology

13 parties with
LIBERAL
ideology

9 parties with
COMMUNIST
ideology

2 parties with
ENVIRONMENTALIST
ideology

9 parties with
UNKNOWN
ideology

⊘ Dual ideology parties

◯ Single ideology parties

and high name recognition, was able to rise above the fray of fractious party chaos, receiving 37 percent of the vote. Whether its results will reflect the party's long-term popular support remains to be seen.

The developing space for political discourse is also working to inform a robust civil society. At most of the traditional media outlets, editors and producers have either been replaced or have found new opinions about the accountability and efficacy of political institutions. New institutions, including TEDx, which will be examined later in this section, are multiplying in size and reach, bolstering a growing intellectual discourse on the form of a new social contract. Bloggers, activists, and civic-minded groups are developing and launching new web platforms for political expression almost every week.[1]

Challenges Ahead

The rapid expansion and democratization of political participation in Tunisia has been impressive. It has created an abundance of opportunities for regular Tunisians to express their political goals and meaningfully engage with institutions that may be able to represent their interests.

Yet these opportunities are not without corresponding threats. Two main challenges face political participation in Tunisia. First, and foremost, is the inexperience that hinders many Tunisians' ability to effectively engage with the political system. The transactional mechanics of participation, such as finding and vetting timely political intelligence, are new to most Tunisians. During a critically important period, citizens have had to learn these new behaviors quickly, often without adequate education or training.

Second, while the volume of party activity is evidence of an open system, and therefore theoretically positive, in practice it has caused confusion among less-informed voters who have difficulty choosing among the cacophony of parties and platforms. In addition, political maneuvers can make reading through partisan logic more difficult. Parties are often splitting, merging, and forming coalitions, resulting in further confusion for voters who are experiencing rapid political change in a short period of time.

Rather than helping voters understand and sort through their options, the abundance of political media compounds the challenge of finding reliable information. From Facebook posts to the national television news to SMS chats with friends, voters are overwhelmed with information. Many do not know what sources and which pieces of information they can trust. In short, the signal-to-noise ratio is out of balance.

These pressures were also clear in the results of the October 2011 Constituent Assembly elections. The chaotic party landscape and over-saturation of political media gave a clear advantage to well-organized parties with a pre-existing role in the political discourse. Many Tunisians credit Ennahda's electoral victories almost entirely to their name recognition and level of organization. It is widely considered to

be an open question as to whether Ennahda will be able garner similar results in future elections, as the competitive landscape becomes less cluttered and voters become more experienced at navigating a new political system.

A Participatory Future

Despite the challenges, there is immense optimism and many positive signs that Tunisia is developing one of the fairest and most representative political systems in the region.

A freer and fairer media are holding politicians to greater standards of accountability. Powerful institutions are challenging each other's authority, creating a balance of power that would have been unheard of in the past. Examples can be seen through the manner in which the military has largely kept in check the Ministry of Interior, which continues to be seen as a legacy of the Ben Ali government's security apparatus. Another sign: the Constituent Assembly and the Ministry of Finance are tentatively debating issues of budget control. These tensions are resulting in power-sharing that is likely to be a positive force for stability and a more balanced political system.

Thus far, many Tunisians feel this balance of power is a good thing: it prevents one faction from taking control, allows diverse groups to have a voice and creates a more-representative landscape. Yet many wonder how long this equilibrium can continue to exist, and they are closely watching the actions of the Assembly and pressures from external forces that look to shape the political landscape. Another potential drawback of this state of affairs is that it may prove difficult to achieve long-term political initiatives which require a strong central planning authority.

Undeniably, institutions with the political capacity for popular participation are growing, and fast. Much of Tunisia's long-term political future will be determined in the coming year. If the positive momentum continues, Tunisians can reasonably hope to enjoy one of the most open and accessible political systems in a region long known for autocratic governance.

Institutions with the political capacity for popular participation are growing, and fast.

21ST CENTURY VOTING:
Digital Tools and Political Engagement

Around the world, the role and applications of citizen voting are changing: online polling has made casting one's vote more accessible in many nations; participatory budgeting, which allows citizens to input on budget priorities, is providing opportunities for citizens to vote for more than just political candidates; and a wealth of new information streams is radically changing how voters collect and analyze information on their choices.

Tunisians are developing their post-revolutionary political landscape amidst these broader global shifts. In many ways, this is a tremendous opportunity for citizens interested in building political institutions, and many in the country are seizing the moment. Political strategists, journalists, and others are actively learning from international examples as a new constitution is assembled and a new political system defined.

These are positive developments. But for the average voter, everything is not so simple. An overload of political information can easily confound a voter seeking political intelligence. During the electoral campaign for the Constituent Assembly, more than 100 political parties and hundreds of independent candidates overloaded the field with conflicting messages and constantly shifting coalitions. Translating this flood of information into informed voting at the ballot is no easier. The mechanics of legitimate voting are simply unfamiliar to many citizens who never experienced anything other than the "show theater" of previous elections.

The average Tunisian has limited time and support to dedicate towards the development of political literacy. This section highlights a few of these voter experiences to describe where future political education can improve civic participation, as well as the information ecosystem where it develops.

A Participatory Future

Finding information on political parties and candidates can be a significant challenge for the average citizen. In addition to the overwhelming number and diversity of parties, a corresponding preponderance of information channels makes it difficult for voters to know who and what to trust.

This information overload leads many voters to trust no one. Frustrated by the information surplus, many voters have a tendency to try and deduce the 'correct' point of view by averaging the opinions of several different sources. This can drive down overall faith in the quality of candidates and electoral outcomes.

Corresponding to the information overload is an overload of media formats, each with specific strengths and weaknesses in the Tunisian context. The table on the following page details the various analog and digital methods of gaining political information:

COMMON USES

SMS

People often sign up for SMS updates from political parties. They also send each other updates on the issues of the day, supplemented with personal commentary.

FACEBOOK

Facebook is used as a primary source for information discovery. Many citizens prefer to find news articles by turning to peer-curated links. Heated political debates often develop around shared links.

TWITTER

Many political parties, particularly those in the Tunis region, have turned to Twitter as a broadcast channel. A tool largely of elite demographics, it is also a hub for debate among this small group of hyper-connected users.

THE COFFEE SHOP

A staple of Tunisian political discourse, the streetside tea and coffee shop is the hub of robust political debate. Conversations that start among a small group of friends are often joined by observers at nearby tables. It is not uncommon for a coffee shop debate to quickly attract dozens of engaged citizens.

LOCAL BROADCAST MEDIA

While trust and support of traditional media outlets is relatively low, citizens expect these channels to represent the political status quo, and use them to understand larger political dynamics and calibrate their actions accordingly. This understanding is often the source material for debate in other channels.

FOREIGN BROADCAST MEDIA

Attuned to the filters through which foreign media is developed, Tunisians turn to international outlets to get a sense of global opinion of their country's politics. When a political faction gains recognition in foreign outlets, it serves as validation for the seriousness of their efforts.

THE CAMPAIGN WALL

Perhaps the most accessible form of political information, the "Campaign Wall" is a staple in Tunisian communities. Here, every party can post its candidates and party platform for passersby to see.

LIMITATIONS

The platform is inherently limited in its ability to manifest a public dialogue, and provides little space for context on the information shared.

Commentary is easily manipulated by opposition groups. Citizens are aware of this and are thus wary of sources outside their personal networks. Facebook's relative anonymity also encourages skepticism towards conversations on the channel.

The limited penetration of Twitter among diverse communities means that the political opinions found through the platform are often biased towards a relatively small subset of the population. Yet the foreign-friendly nature of Twitter means that these opinions are often given outsized recognition among foreign audiences.

While a pure form of engagement, such dialogue lacks the ability to document and enshrine political determinations. It is also inherently limited to the number of people serendipitously able to gather at any one time in a given physical space.

It is common knowledge among citizens that traditional media outlets are still heavily influenced by the old elite. They are thus generally mistrusted and not believed to provide a fair and balanced view of political developments.

Given that much of international reporting on Tunisia adopts a variety of biases that are unfriendly to the local audience, Tunisians question the credibility of foreign news sources, and use them for calibration purposes, rather than as a source of political determination.

With no digital analog, the campaign wall is inherently limited by physical proximity. Also, the insecurity of affixed materials means that vandalism occurs frequently. Finally, the cost of printing posters for all the walls in a district can be cost-prohibitive for smaller parties.

REALIZING THE PUBLIC SQUARE:
The Campaign Wall

While there is a plethora of political information sources, there is only one place where almost everyone can freely access information on political parties: the "Campaign Wall," a ubiquitous presence during electoral season.

Found in every Tunisian town and village, a campaign wall is an effective low-tech channel for political advertising. Usually located in high-traffic areas, the wall provides a numbered grid designating one spot for each registered party in a given district. Parties paste candidate rosters, party platforms, and other relevant information in their allotted grid. Voters often gather around a particular party platform poster to debate the positions put forward.

Given that most districts have dozens or even hundreds of registered parties, these walls can be dense and confusing displays of analog information. Another challenge of this format is the ease with which competing parties can tamper with the signage of opposing groups.

Because of this risk, many parties with little budget for printing expensive posters are hesitant about using the walls. In many instances during this investigation, dozens of blank squares were found on campaign walls. The presence (or lack thereof) and conditions of their posters on the walls are indicative of a party's wealth: the most resourced entities often replace their posters every week to account for rain damage or sabotage, or to update their messaging.

The system, which likely developed to bring order to chaotic postering practices, has its merits. It is relatively effective at ensuring equal access to political information among all stakeholders, as well as serving as a hub for in-person political discourse. Yet the fact that the wall can disadvantage and exclude less-resourced parties bolsters the argument for investing in new digital opportunities to equalize the existing political environment.

TRADITION AND PROGRESS:
New Media and the Debate on Political Islam

Undeniably, the media have an important role in echoing political discourse, amplifying some voices at the expense of others. In an ideal world, the weight of various parties, particularly during an electoral phase, should be equitably distributed across the overall volume of media to mitigate any prevailing political bias. However, Tunisians find themselves facing the same problems of other highly mediated political systems, where the reality is far from ideal. Less controlled and more spontaneous media are frequently used to virulent ends by those with the means to manipulate them.

There is no greater example of this virulence than in the tension between different views on the role of Islam in politics. It remains a routine occurrence for conservative Islamists and secular progressives to clash in rowdy street violence after a controversial political development. These clashes are often organized and fed by the active use of new media, from rally videos shot on hand held cameras to an abundance of political reportage on the tensions of the day.

This virulence, and the mutually extreme positions that drive it, has monopolized much of the political debate in a variety of important channels, including international media, who often place heavy emphasis on the dichotomy between political Islam and secularism.

In a state where two previous presidents have sought secular positions, political Islam is not a new phenomenon: during the 1989 elections, after 30 percent of voting intentions went for the Islamists, the Ben Ali regime immediately decided to neutralize Ennahda. However, with former political modalities cast aside, this old debate is changing shape and heft against a new political backdrop.

Islamist movements that existed before the revolution are no longer clandestine, but many Tunisians still question their representativeness and their legitimacy. The distance between the people and the representatives—and between those who demonstrated and those who have ended up in power—partly explains the gap between the demands of the revolution and the unfolding structure of government.

While creating a political consciousness on the street, the revolutionaries were unable to assemble an immediate political discourse. They were thus drawn to mobilize existing opposition discourses—such as Islamist/secularist—that were denied an official political role in the previous regime.[2]

There is no other place in the world where the debate over political Islam is unfolding without military disruption, and in a social context of reformed institutions and reimagined political identity. The unfolding debate is being watched the world over and will likely impact other debates in the region.

Technology's Confounding Role

Technology's role in the debate about political Islam is varied and at times quite negative—extreme voices have often turned to new mediums to amplify their message and broadcast to a wider audience.

Extremists, whether Islamist or secular, often organize coordinated Facebook smear campaigns. They use their strength in numbers to hijack meaningful political debates among their social networks and turn them into vehicles to promote their own points of view. This has driven some Tunisians to conduct their religiously oriented political debates in private online listservs, largely inaccessible to those who might otherwise skew the debate.

Political groups are also well aware of the role the media can play in provoking foreign reaction and garnering resources. It is common to see "shock techniques" geared to anger and disrupt mainstream opinion or to attract international attention as a way of mobilizing further support at home.

Reactions to the national broadcast of the Academy Award-nominated film *Persepolis* illustrate how the media can drive conflict and tension among factions. A progressive television channel chose to present the film to a national audience even though it contained a scene depicting Allah, which is anathema to Muslims. As similar occurrences had created explosive conflicts in other regions, the showing was likely a planned provocation of conservative audiences.

Unsurprisingly, the film's broadcast sparked angry riots and acts of violence across the country. Both conservatives and secularists turned to television, print, radio, and the web to launch advocacy campaigns either disparaging the film's broadcast or defending the right to freedom of expression.

In addition to broadcast media, various factions are becoming increasingly adept at using integrated mobile phone, email, and flyer campaigns to mobilize and organize their supporters. After a major event, such as the *Persepolis* broadcast, it is not uncommon to see street teams distributing flyers to pedestrians. These materials are developed by partisans that debate messaging over listservs at night, print up flyers the next morning, and mobilize street teams via SMS to blanket the city.

Technology is clearly empowering those with a political agenda, but it remains to be seen whether it is happening at the expense of a reasoned, representative civic debate.

Ennahda 22.9%
PDP 11%
CPR 6.4%
Al-Watan 6.1%
Ettajdid 5.9%
Ettakatol 5.7%
POCT 4.4%
Al-Majd 4.1%
Afek Tounes 4.0%
ANPP 3.5%
MPD 3.3%
PAGAD 3.3%
PSG 3.1%
MDS 3%
MUP 2.8%
Al Mustakbal 2.3%
Baath 2.1%
Alliance Rép. 2.1%
PRD 2%
MPUP 2%
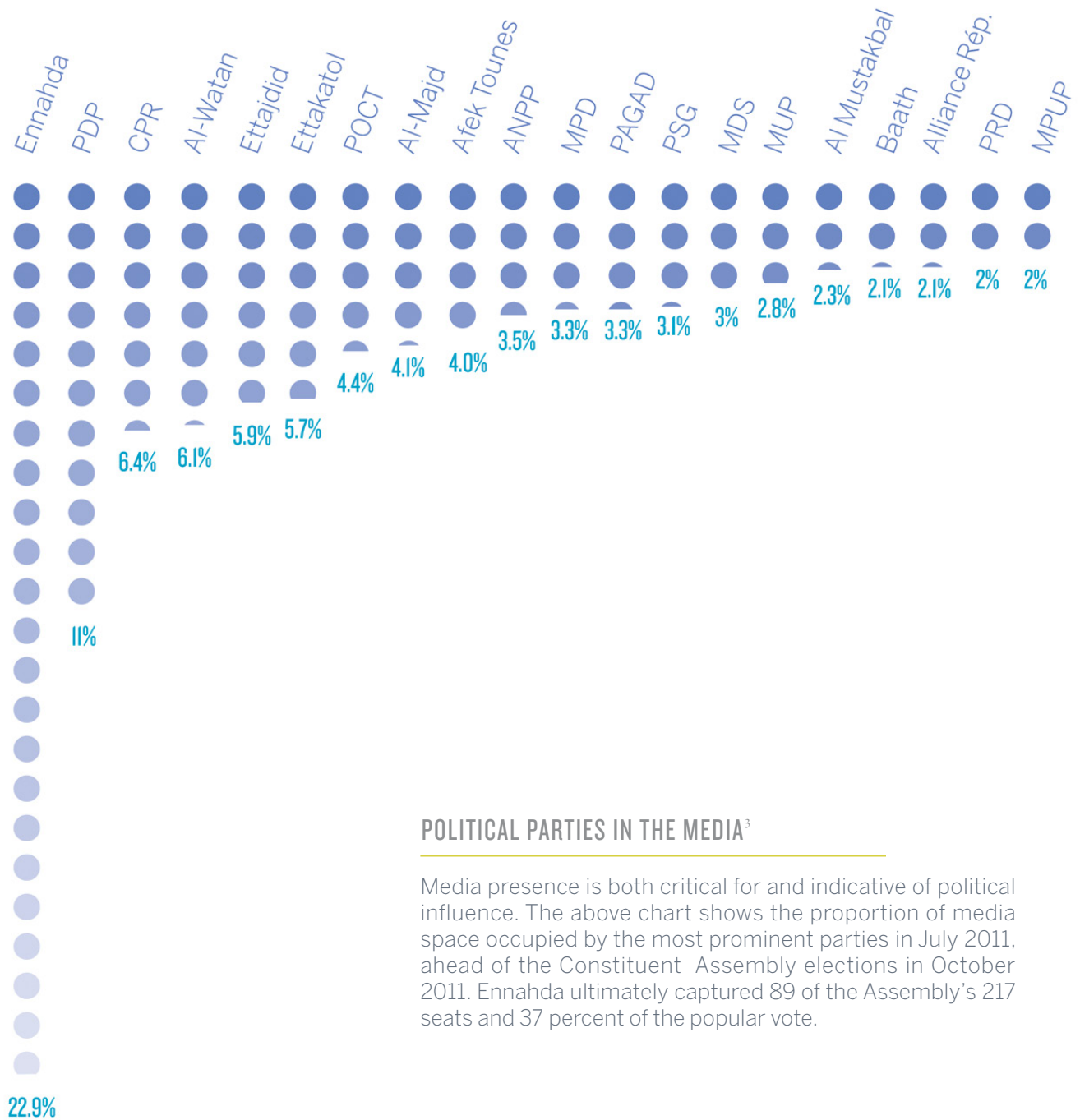
POLITICAL PARTIES IN THE MEDIA[3]

Media presence is both critical for and indicative of political influence. The above chart shows the proportion of media space occupied by the most prominent parties in July 2011, ahead of the Constituent Assembly elections in October 2011. Ennahda ultimately captured 89 of the Assembly's 217 seats and 37 percent of the popular vote.

Zitouna FM: A Leading Voice for Islam

KEY STATISTICS

MONTHLY UNIQUE LISTENERS

1.2 million

MONTHLY LISTENING SESSIONS

27 to 32 million

AVERAGE ONLINE LISTENERS

800,000

MONTHLY AUDIENCE GROWTH

2 percent

One institution provides a clear example of Islam's shifting public role in Tunisia. Zitouna FM is one of the leading Islamic media outlets in the country; *zitouna*, a Quranic reference, means "olive," a fruit seen in Islam as a gift from God. Its broadcasts, which reach more than 30 million listening sessions and 1.2 million listeners a month, are distributed via terrestrial radio broadcast, the Nile Satellite network, and the Internet. Zitouna presents a vigorous and politically conscious voice on current events, as well as a mix of religious teaching, scriptural orations, music, social commentary, and news.

Its audience is growing, and fast. Zitouna is now reaching 900,000 online listeners a month in more than 100 countries from Canada to New Zealand, and its audience grows by 2 percent each month. The station has struck partnerships with regional and global broadcasters to syndicate its content, and it recently hired a video team to produce original video broadcasts for a new website, which runs off a high-end digital storage system on par with any found in the United States or Europe.

How is this small media organization, housed in a two-storey bungalow in the shaded streets of suburban Carthage, building a global broadcast empire? Tunisians would say that it is doing so by being authentic. Citizens of all political and religious stripes report enjoying the broadcasters' honest and fair approach to the political and cultural issues that they and other Muslims are facing in this period of social change.

Zitouna FM didn't always enjoy such an audience. Originally founded by a relative of the Ben Ali family, senior management used to avoid politics, and served listeners a relatively bland slate of programming. But as its staff was comprised of committed journalists, the revolution provided an opportunity to push for an internal transition. After the revolution, executive management was removed and the station was put in a stewardship status, with broad autonomy over its programming and operations.

Political and news programming immediately increased, as did the number of live discussion and call-in shows. The station's new executive producers wanted to create a platform for regular Tunisians to voice their opinions about their changing social conditions.

The station has also started pursuing a vigorous agenda for public accountability. It routinely covers stories of corruption in the previous government, and is publicly pushing for transparency and accountability provisions in the new constitution.

These moves were extremely popular with the public, and the station has increasingly become a serious, considered, and

respected voice about Tunisia's transformation in the Arab world. Producers and anchors actively seek audience engagement for their shows: the station maintains an email account, phone lines, a Facebook page, and an SMS number where it accepts audience comments and feedback. A volunteer administers the Facebook page, serving as a de facto advocate to Zitouna fans.

Zitouna's new leaders clearly enjoy the support of their audience, which helps them deal with the vitriol they routinely face. Conservative Muslims often deface Zitouna's Facebook page, claiming that the station isn't adhering to Islamic doctrine. Secularists also cry out against the broadcaster for promoting a religious agenda.

When asked how the station deals with seemingly conflicting criticisms from the public, one producer grinned: "If we're making both sides mad, then we must be doing something right!"

Conclusion:
THE TEDx MOVEMENT:
Organizing for an Intellectual Revolution

The current demand for political participation among Tunisians outstrips the available supply of institutions capable of supporting and expressing popular will. To address this imbalance, motivated civic leaders are transforming their grassroots communities into viable institutions. One specific community provides a useful example to illustrate the optimism that these institutional movements are inspiring: TEDx.

The TEDx movement in Tunisia has grown quickly in the last year. Based on the format of the popular American conference series, these events usually feature inspirational speakers as well as curated activities like music, poetry, and art. The first Tunisian TEDx event was held in September 2010, just a few months before the Ben Ali government fell.

In the time since, there have been 10 more TEDx events and an additional six are already planned for the remainder of 2012. However, as is clear from the geographic distribution of the Tunisian TEDx series, it is still largely an elite and coastal institution.

THE PEOPLE OF TEDx Many of the organizers, volunteers, and attendees are young, affluent and technologically-savvy. At the largest TEDx event of 2011, the crowd was approximately 60 percent male and 40 percent female, and the age distribution was heavily clustered between 21- to 32-year-olds. Many of the events take place in universities, strengthening the symbolic connection to youth communities.

The TEDx loyalists are the faces of Tunisia's idealistic middle class. Fortunate to live in Tunis or another major coastal city, they have received the best educations their country can offer, and they enjoy stable access to the technologies they need to be connected to a global community.

Thus, it is no surprise that they have been drawn to the TEDx format. The model places strong value on personal achievement and social optimism—two values that this community of Tunisian young people desperately needs as they search for jobs and opportunity in an otherwise sluggish economy.

Its attendees are also fanatical in their support. A headline event in Tunis sold out more than 2,000 tickets in a mere 15 minutes. The day's activities were broadcast online to hundreds of viewers from all over the country, and the event boasted a list of volunteers that was several hundred deep.

THE TEDx COMMUNITY MESSAGE A unifying theme of the Tunisian TEDx movement is a push for a new intellectual life in the country; individual event themes include "Imagine History," "inTolerance," and "How to Become a Creative Genius."

The curators and participants share a common frustration with the failure of the previous government and other elite institutions to create solutions that adequately addressed the economic and social challenges that Tunisians face. While many of the young people in attendance may have seen their families benefit from the previous regime, they also recognize the inherent instability and inequity of the Ben Ali era. With their expensive

foreign-brand clothing and iPhones, these talented, privileged young leaders talk passionately about the regional disparity and unemployment that plague their country.

Ultimately, the TEDx organizers and attendees want to inspire a new generation of political and cultural leaders to have the intellectual curiosity and emotional courage to create institutions that are responsive to the demands of all Tunisians, not just a select few. As computer scientists, entrepreneurs, and social media marketers, these individuals also envision a new business environment that supports innovation and embraces the role of small and medium-sized businesses in creating economic growth.

TEDx IN TUNISIA

The period since the revolution has seen a flurry of independently organized TEDx events spring up. The majority of these have occurred or will take place in coastal cities among relatively affluent audiences.

TEDx INSAT
Feb 5, 2012

TEDxYouth@La Fayette
Nov 20, 2011

TEDx Ariana
Oct 30, 2011

TEDxESPRIT
Dec 11, 2011

TEDx Sousse
Apr 30, 2011

TEDxYouth@Gabes
Nov 20, 2011

TEDx@ENIG
Mar 7, 2012

TEDxYouth@GabesChange
Apr 5, 2012

TEDxENSI
Jan 15, 2012

TEDxCarthage
1st Edition
Sept 25, 2010

TEDxDjerba
Oct 6, 2012

TEDxTunis LPBT
Jan 15, 2012

TEDxCarthage
2nd Edition
Mar 20, 2011

TEDxTunisDauphine
Mar 24, 2012

TEDxCarthage
3rd Edition
Sept 25, 2011

TEDxCarthageChange
Apr 5, 2012

- Events affiliated with academic institution

- Independent events

TEDxESSTT
May 6, 2012

TEDxMegrine
Sept 2, 2012

Meet the TEDx Organizers

The following profiles introduce three committed activists; each has been deeply involved in organizing one or more of the major TEDx events in Tunisia.

Each is also growing into a dedicated public advocate; as such, they have allowed their real names and information to be used.

NAME & AGE	WALID, 37	HOUSSEM, 27	BEN, 17
TEDx EVENT	TEDxCarthage 3	TEDxCarthage 1, 2, 3	TEDxYouth
GOALS FOR TEDx MOVEMENT	"I want to inspire our government to support innovation at home. Right now, we entice foreign companies to bring their research centers here, but we need to develop our own companies capable of moving up the value chain."	"We need to build a civic infrastructure in Tunisia. The government built some highways and Internet lines, but they never let us develop the civil society institutions we need to be strong and healthy."	"Young people were the heart of the revolution. It is up to us to keep the government honest and accountable. We're too young to be inside the government; it is our job to stand on the outside and throw rocks at them until they do the right thing."
BACKGROUND	Financial services, hospitality industry, entrepreneur.	Web marketing strategist for a professional services firm.	Activist, blogger, television correspondent, high school student.
MORE INFORMATION	www.tedxcarthage.com	www.ted.com/tedx/events/1197 www.ted.com/tedx/events/1667	www.ted.com/tedx/events/3919 ○

By using universities
as a setting, TEDx only
strengthens the symbolic
connection to youthful
communities.
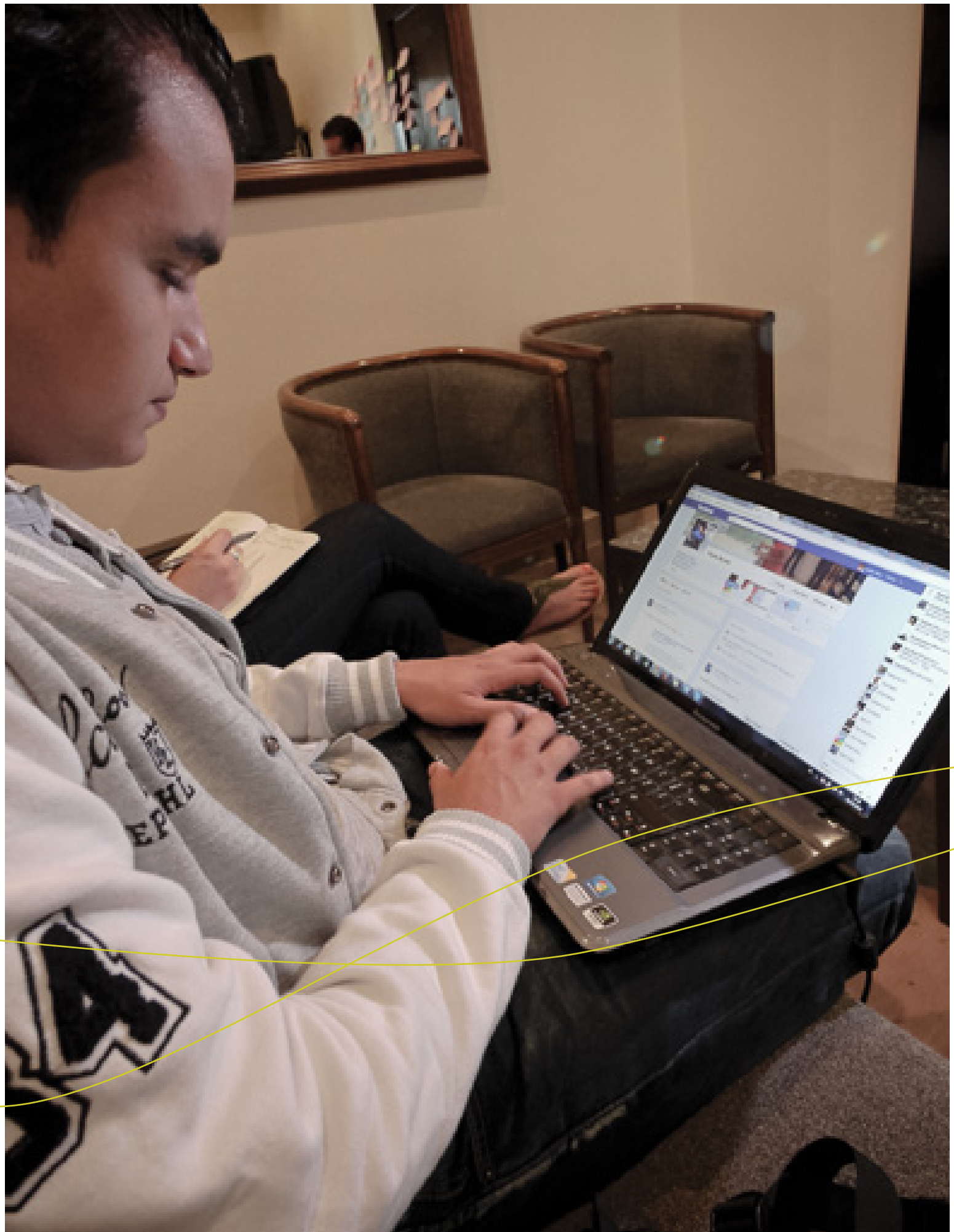
TOWARDS A DIGITAL CIVIL SOCIETY

Communities formed around digital tools and virtual spaces are flourishing in Tunisia. Whether motivated by economic opportunities or political goals, these groups represent a burgeoning civil society. In the coming months and years, they will continue growing and influencing Tunisia's political and economic development.

SOCIAL PROGRESS ONLINE:
Digitally Bound Communities Work for a New Tunisia

Fatima loves the ocean air and sandy minarets of the medina in her hometown of Hammamet. Yet when she was accepted to the country's most prestigious engineering university in Tunis to study computer science, the decision to leave was easy: even more than ocean air, Fatima loves technology.

She has been drawn to computers from a young age. In middle school, Fatima's favorite subject was math because her class would visit the computer lab to use educational software. To a young Fatima, computers were new, different, and infused with opportunity.

Today, computers are a daily part of her life, along with mobile phones, televisions, web browsers, and VoIP applications. Facebook broadens her network and leads her to new friends. Text messaging keeps her in close contact with her parents (Hammamet is over an hour away from her university). Technology is increasing her connections to friends, classmates, and neighbors, further enmeshing her in an already tight-knit cultural fabric. The tools themselves are not nearly as enchanting as these people, and the connections she can make to them seamlessly, easily, and quickly.

It was these connections that encouraged Fatima to study computer science. She longed to understand software engineering, and dreamed of developing a new web browser that she and her friends could use to share their online experience with each other.

But after a few years, Fatima found herself getting tired with her chosen course of study. She found her classes boring, filled with computational theory and binary code, and devoid of the rich discussions that had drawn her to technology in the first place. Yearning for these experiences, Fatima found herself spending more time out of class, and organizing student groups.

Tunisian society under the government of Ben Ali wasn't friendly to organized groups of talented young people.

She started bringing together peers who had common interests and diverse technical skills. One such group formed around the popular open-source project Mozilla. As open-source software, the codebase of Mozilla's web-browser, Firefox, is free and available for anyone to access and build on. The students in Fatima's group used it to practice their web development skills. Another group led email and web classes for other students. Fatima found her organizing work to be engaging and energizing; after a few months, she was organizing public events, and was so deeply involved that she often skipped homework assignments to moderate long debates on the group's private email list over minute technical points. Then, the revolution happened.

Like many youth, Fatima was confined at home by her parents during the most chaotic periods. But she wasn't disconnected from her friends. Her Mozilla listserv buzzed with activity. Once reserved for popular web links and long and obscure debates about the technicalities of software programming, the listserv became a rich and thriving political salon.

Many list participants were excited about the new beginning they saw emerging. But many were also scared of the unknown: Would a new government end up being worse for the people than before? Would tensions between opposing factions, now free from containment, explode into spiraling violence?

Fatima wasn't content sitting around and waiting for answers. She and hundreds of her peers from the open-source community and other technical groups began turning their skills towards civic challenges.

Reading articles online about "open gov" movements in other countries, where online activists push to make government documents, materials, and processes open and accessible to the public, they decided that it was time for a Tunisian open-government community.

To help their fellow citizens engage with emerging political leaders and make sense of the new political reality, they organized events like "E-Tunisia" and "Tunisia 2.0" to discuss their ideas for new web platforms and services that would help realize a better future, and turned to Facebook to talk to their non-technical friends and family about their activities.

Many of these communities initially formed around a common technical interest or a favorite web brand, and yet they were proactive in turning their collective attention to the political situation their country faced.

Today, these online communities are continuing the struggle for open government in the new Tunisia, and they are providing an important infrastructure for the development of a new civil society: In a country that has long lacked public opportunities for political gathering, the footprint of online organizing grounds are natural places for civic participation to grow.

KEY INSIGHTS IN THIS SECTION:

Robust online communities formed around commercial technologies, both open-source (Ubuntu, Android) and proprietary (Microsoft's .NET).

These groups are forming the basis of a new civil society, organized in digital spaces but searching for ways to engage with the emerging political structure.

While well-defined, these communities lack certain critical capacities, such as a physical home and community coordination. Addressing these constraints is a clear opportunity to support the development of a strong civil society.

There is a powerful aspirational pull to these communities, and students believe the Internet offers meritocratic opportunities for economic success.

The Online Landscape

The tone, tenor, and makeup of the online landscape has changed significantly in the time since the Ben Ali government left office. Critical platforms, such as YouTube, have been removed from censorship lists, and their use has correspondingly exploded. Twitter has grown dramatically in the past year: there were only about 500 active users in the country at the time of the revolution, suggesting that breathless media reports perhaps overstated the platform's role in the demonstrations.[1]

Political leaders and other influential stakeholders are changing tactics as well. Officials from the Constituent Assembly are using new media tools to engage with the public, and community norms around web content are being actively debated in public forums. All of this represents a flurry of positive growth in the adoption of online tools for social development.

But recent growth should not overshadow a deeper legacy of online civic activity. Use of Facebook's Arabic-language interface increased by a rapid 30 percent from January to April 2011, certainly an effect of unrest across the region, but it is important to note that users doubled from April to December 2010.[2]

This pre-revolution growth was evident in Tunisia. Despite pervasive government control, the Internet under Ben Ali provided fertile ground for organizing: via instant messenging services, online forums, email listservs, and social media platforms, hundreds of thousands of Tunisians used the web to connect with each other and assemble themselves into robust communities.

Penetration and Demand

Like much of the world, mobile phones are undoubtedly the most pervasive platform that average Tunisians use to gain access to information networks. Roughly 85 percent of Tunisians have a mobile phone, according to most estimates, while only one in every five Tunisians is active on Facebook (although in coastal regions, these numbers are much higher). Broadband networks are robust along coastal areas, but suffer greatly in penetration and effectiveness as one moves into the interior regions.

Dial-up and broadband are used widely by a significant portion of the population, with penetration listed at 36.3 percent as of January 1, 2012.[3] Yet, usage and penetration patterns are highly reflective of the regional disparities discussed in Section 2 of this publication. Usage maps suggest that the vast majority of those accessing the Internet through computers are found in the coastal geographic band that stretches from Tunis to Sfax—areas more privileged under Ben Ali. In many parts of the interior, whole villages and towns lack Internet access, or even reliable mobile phone coverage.

That said, demand for consumer Internet applications and services is high and it's obviously growing. The revolution further popularized the role of the Internet in Tunisia, and citizens who were not previously motivated to gain access to the web are now looking to do so.

Similarly, the Internet is proving to be a powerful aspirational force in economic terms. Young people, already confident computer users, recognize the economic opportunity that online connectivity brings. They feel that jobs as web developers and software engineers are more accessible and meritocratic than those in more-established industries that were tightly controlled by the former government.

Combined, these factors have created a healthy demand for the tools, products, and services that have made the web an engine of economic and social growth in other markets.

Digital Infrastructure

In terms of digital infrastructure, the landscape is uneven. The mobile sector generally exhibits competitive characteristics. Consumer prices are fair relative to the region, and new products and services are often introduced in attempts to win market share. Two of the three national providers have begun rolling out 3G (Third Generation) networks, capable of delivering high-speed Internet to mobile phones. However, these two providers also had close ties to the ruling elite of the previous government; the suggestion is that their investments in infrastructure run geographically parallel to political favorites. A similar pattern of uneven infrastructure runs through the broadband market. There are only five private sector actors competing to provide citizens with Internet access. In many interior regions, Internet services are completely absent or, if available, cost-prohibitive for most.

Other critical architectures necessary for an innovative and value-generating web also remain underdeveloped. For example, the lack of a high-quality consumer payments gateway is frequently bemoaned by entrepreneurs and users alike. The current tool, administered by a consortium of Tunisian banks, scores low marks for usability and security and is routinely victim to malicious attacks. Such a system prohibits the smooth flow of e-commerce, which is critical for local innovation.

Similarly, highly valuable geographic information systems (GIS) are still tightly controlled by Tunisia's military. These systems, and the information they hold, are critical to the development of location-based web-services, such as Google Maps, as well as those that incorporate location services, like Yelp. Groups of entrepreneurs, developers, and activists are increasingly demanding that the new government open their geographic data layers up to the public, as is standard in many other countries. This would entail open access to certain critical data sets that entrepreneurs and software engineers can use to build location-aware services. These demands are slowly having an impact: a recently announced public-private partnership would allow a consortium of private enterprises to work with the military to develop location-based computer systems.

Addressing these infrastructure gaps will go a long way towards improving the flow of connections and commerce among online communities.

DIGITAL CONTENT:
A Pirate Culture Cracks into Hollywood's Value Chain

Gray-market piracy of digital content is rampant in Tunisia. Feature films, computer games, advanced software applications, and music are routinely downloaded and distributed by countless amateur file-sharers and legitimate businesses.

Much of this piracy is driven by dedicated file-sharing collectives. Organized as loose-knit groups of affiliated hackers, these collectives have a high degree of social status among many younger Tunisians, who respect their ability to flout international business practices that are deemed unfair.

Legitimate business have seen the opportunity this culture has created. Enterprising retail stores, armed with fast connections and technical know-how, are stepping into the void that traditional distributors have left open. They burn hundreds of movie, music, and software titles to discs and repackage them for sale. It is not uncommon to see cases containing thousands of gray-market titles in a computer repair store.

Through this system, consumers who lack steady Internet connections are still able to access the online vault of content that might otherwise be limited to more connected and tech-savvy citizens. Some retailers even take requests.

This behavior, both on the part of the regular user and of the business, is understandable. For the user, much global entertainment content is never released in the Tunisian market; piracy thus appears to be a reasonable option if one would like to access the material at all. Other materials, such as standard productivity software (like Microsoft Office) and design software (like Adobe Creative Suite) are not accessibly priced for the local market. For the business, sales of pirated content meet the demand of their customers.

Though intentions are understandable, these activities still drain value out of the economic system. To address this problem, multinational providers of expensive software would do well to consider localized pricing structures. Similarly, entertainment content providers should seek new partnerships to ensure that content is distributed in the local market in accessible, affordable channels.

FROM SILVER SCREEN TO BLACK MARKET

A combination of factors optimize conditions for the piracy of intellectual property in Tunisia. The below flowchart maps the path of how a popular American movie ends up as a Tunisian bootleg.

LIFECYCLE OF INTELLECTUAL PROPERTY

ENABLING CONDITIONS FOR PIRACY

Hollywood blockbuster released to DVD

The DVD is not released in Tunisia or with Arabic subtitles, underserving local demand.

Content 'ripped' by pirate groups

Piracy groups can easily access content files from legitimate foreign DVDs or from international file-sharing sites.

Packaged for local distribution

Arabic-language subtitles and other value-added localization materials are added.

Distributed in download-friendly 'torrent' files to Tunisian file-sharing sites

There are a handful of popular file-sharing forums that are used by countless Tunisians. They provide a ready-built audience for new content.

Content monetization

TRACK 1: E-Distribution

ENABLING CONDITIONS FOR PIRACY

TRACK 2: Retail Distribution

Downloaded directly by consumers from file-sharing sites

Consumers are usually able to access this material for free, providing a price advantage over legitimate distribution. Also, website operators derive revenue from online advertising and other tactics.

Many types of retailers sell pirated content alongside the rest of their products. Most do not fear consequences for the sale of pirated material.

Downloaded by retailers with a physical storefront

Consumers burn illicit content to DVD for sharing with their friends

Individuals gain social capital by sharing enjoyable content with their friends and family, encouraging a cultur of illicit file-sharing.

Retailers find a ready market among consumers with poor Internet connectivity or limited technical literacy.

Content transferred to DVDs that are labeled and packaged for sale

COMMUNITY ECOSYSTEM:
Mapping the Groups Behind Tunisia's Digital Civil Society

Online communities in Tunisia coalesce around widely divergent technologies and platforms. The motivations behind those who take part are equally diverse. Many are driven by a love for a specific technology or programming language. Often the appeal of these tools are the economic incentives they represent. Skill in a given technology often provides access to foreign markets or new employment opportunities.

Other communities are drawn together by a shared political ideology. The online tools used by these groups provide easy

and effective means for discussing and advocating for their political beliefs. Several communities fall in the middle of this spectrum, seamlessly blurring technological preferences and political priorities.

Below is a breakdown of some of the key types of online communities in Tunisia. As with any population, there is significant overlap between these groups. Each community identified, however, has its own leadership and discrete forums for communicating and organizing.

TOOLS USED TO ORGANIZE

PREDOMINANT USE

EMAIL LISTSERVS

Listservs are primarily used as private spaces for internal debate and organizing among a given community. It is not uncommon for a debate to reach several hundred messages in length.

FACEBOOK

Facebook is used for a variety of purposes, but one of its primary applications is for external marketing. Given the network connections Facebook offers, community members see it as an ideal channel for promoting their agenda and activities to friends and acquaintances outside their community.

WEBSITE FORUMS

Numerous websites, from car clubs to movie review forums, have developed robust communities. In the post-revolutionary period, their forums are, despite their original purpose, being used as active hubs of civic debate between various online constituencies.

TWITTER

Twitter is still viewed as a tool largely of elite and Western-oriented commentators. French- or English-speaking bloggers frequently turn to it as a channel for communicating their political agenda to foreign observers.

YOUTUBE

Despite YouTube's recent entry into the Tunisian market, it already enjoys massive popularity. It is a rare public gathering or political event without at least a few people filming the activities for later posting to YouTube.

Economic Motivation ←→ **Political Motivation**

Row labels (left axis):
- KEY APPLICATIONS OF TECHNOLOGY
- POLITICAL GOALS
- CAPACITY GAPS
- KEY TECHNOLOGIES
- MEMBERSHIP

Center: **ONLINE COMMUNITY**

Community segments:
- **Enterprise Developers**
- **Open Source Developers**
- **Citizen Journalists**
- **Hacktivists**

Enterprise Developers

MEMBERSHIP: Slightly older, well-educated professional developers.

KEY TECHNOLOGIES: Microsoft .Net, C#, SQL, Java

CAPACITY GAPS: Access to capital and other critical resources necessary to build a successful entrepreneurial startup.

POLITICAL GOALS: Expanded access to higher value positions on the multinational software development value chain.

KEY APPLICATIONS OF TECHNOLOGY: Hope to use their skills primarily to gain economic advancement. Many are entrepreneurs trying to sell into international markets, and others are seeking jobs with multinational corporations.

Open Source Developers

MEMBERSHIP: Diverse in demographics and level of technical expertise.

KEY TECHNOLOGIES: Android, Mozilla products, Ubuntu Linux

CAPACITY GAPS: Access to capital and other critical resources necessary to build a successful entrepreneurial startup.

POLITICAL GOALS: Increased support for and use of open-source software by the Tunisian government.

KEY APPLICATIONS OF TECHNOLOGY: Driven by software development services for diverse uses, from civic engagement to great online consumer marketplace. They want to make tools, products and applications to the next

Citizen Journalists

MEMBERSHIP: Mostly young (between 15 and 30) with a few older.

KEY TECHNOLOGIES: WordPress, Blogger, Facebook, Twitter.

CAPACITY GAPS: Political institutions willing to and credibly treat their demands.

POLITICAL GOALS: The blogosphere's political goals are as diverse as Tunisia's population. Frequent areas of discussion include an improved media system and expanded accountability among government institutions.

KEY APPLICATIONS OF TECHNOLOGY: Seek means to amplify their voice and to connect with like-minded citizens. Frequently use other popular platforms, such as Facebook, as a forum for debate, wielding links as ammunition against opposition viewpoints.

Hacktivists

MEMBERSHIP: Under 30, often fiercely political and technically skilled.

KEY TECHNOLOGIES: Rootkits, DDoS, Trojan malware, SQL database

CAPACITY GAPS: Legitimacy and formal organization that may expand the impact of their political demands.

POLITICAL GOALS: This community ardently protects a free and open Internet. They reject censorship in all forms and also promote democratic ideals of openness and political accountability.

KEY APPLICATIONS OF TECHNOLOGY: Hacktivists may easily hail from any of the other groups, but they use their advanced technical skills for political gain. They may take down the government website of an institution they don't agree with, or participate in international hacker movements such as Anonymous.

TUNISIA'S DIGITAL CITIZENS

A combination of technological and political revolutions have sparked the creation of communities who draw their identities and livelihoods from the digital sphere. This graphic introduces four of these online communities and their goals for a new Tunisia.

Building a Digital Civil Society

Collectively, Tunisia's online communities represent critical components of a sustainable, politically capable civil society. Self-organized and robust, they represent the progressive political growth that online spaces have fostered in Tunisia.

These communities, however, have matured in a loose and unbounded manner. Despite their significant levels of organization, they lack some of the formal structures that traditional civil society organizations rely on to facilitate impact.

A lack of infrastructure (such as dedicated meeting spaces), unclear leadership structures, and frequent in-fighting are all elements that constrain these groups. Until these issues are dealt with at least partially, it will be difficult for them to formally engage with the government and other international institutions. In many ways, these gaps undermine the credibility and impact of communities that otherwise should be recognized and supported for their level of political and organizational sophistication.

There are many opportunities for interested groups to support the development of online communities' organizational infrastructure. Readily identifiable needs include physical hubs to house their activities, dedicated community coordinators, and expanded recognition from the government and multilateral institutions. All of these initiatives will support the positive impact that these communities can make on both entrepreneurship and social cohesion in Tunisia.

THE DIGITAL PUBLIC SQUARE:
From Apathy to Activism

Apathy and Activism

Political apathy in pre-revolutionary Tunisia had many origins. First, and foremost, many Tunisians felt little return on their investments in social advocacy. Rather than producing results, such activities were more likely to garner negative treatment from government authorities. With such a response, it was a rational choice for the average citizen to avoid political activism.

Another inhibitor of social activism that existed for many years was the inability to identify and connect with others who may have shared a dissenting political opinion. The robust state control of official media and the security ramifications of organizing openly in physical spaces made the search cost of ally identification very high.

Both of these factors have been reduced, although not eradicated, in the post-revolutionary era of free expression and largely uncensored online media.

Roots of Online Advocacy

Over the last several years, listservs, instant messenger, and online forums provided rich, less-controllable forums where Tunisians organized around existing online content, original new ideas, and personal relationships. This trend continued to expand, as Facebook began to penetrate the normal social lives of many Tunisians. Facebook surfaced relationships and connections that had long been hidden behind geographic distance or cultural differences.

These developments made it far easier for Tunisians to seek out and interact with those who shared their opinions. Of course, in many contexts, online connections were first inspired by mutual interest in everyday topics such as sports teams, music, or computer games. But over time, the bonds that were created in these spaces led to deeper relationships; people began sharing their ideas around philosophy, society, and what it meant to be Tunisian.

These relationships grew in number and strength, despite the fact that many individuals had never met in person. Some of these groups began developing into overtly political entities, as their shared frustrations at the Ben Ali government bubbled to the surface of their online discourse. For other communities, their focus remained apolitical. Yet in the early days of the revolutionary uprising, these groups felt unshackled by their previous constraints, and increasingly began discussing political topics. Word of disruptive events and demonstrations spread rapidly through the forums and email listservs that bound these groups together.

In this organic manner, online networks truly served as a digital grapevine through which much news of the revolution spread. These channels and conduits have only expanded in the post-revolutionary period.

E-activism in the Post-Revolutionary Period

Since the revolution, individuals have taken advantage of newfound freedoms to connect and debate online. Many bloggers kept their identities anonymous before the revolution; today, they use their real names. In the early days after the revolution, many of these bloggers came out publicly because they felt a need to have their voices heard by wider audiences than what they could reach anonymously.

Across Tunisia's web ecosystem, from overtly political blogs to online forums dedicated to the sharing of films, political debates are still raging. The Constituent Assembly elections dominated these discussions for much of 2011. Since the Assembly has been seated, debates have moved on to more timely issues: the role of political Islam, economic development, and ongoing political corruption are all issues that draw high interest from members of online communities.

There is perhaps no forum with more robust debate than Facebook. Within the portion of the Tunisian population that is digitally well-connected, Facebook usage is rampant; some estimates place active Facebook use at 90 percent of the connected population.

The Role of Facebook

Facebook's role in Tunisia is as diverse as the population itself. Some people, from almost all demographics and income levels, spend hours a day on Facebook, connecting with friends, families, and associates abroad. For many newer Internet users, Facebook is leapfrogging traditional communication tools, such as email and instant messaging. It is not uncommon for younger Tunisians to manage the majority of their social coordination through Facebook.

Despite viewing Facebook as a largely social arena, these users are also accessing news articles, advocacy videos, and other politically oriented content being shared by their contacts on the site.

A cacophonous public square, Facebook inevitably brings users into contact with political debate and discussion. Inarguably, Facebook is at the heart of a new brand of political advocacy. With its massive built-in audience, those with an upstart political message know that they can use Facebook as an effective forum to project their position.

Many political parties took active advantage of Facebook in their campaigns for the Constituent Assembly election. Traditional political campaigning is expensive. Unable to purchase paid media or pay for endless print runs of campaign posters, many smaller parties turned to Facebook for the majority of their campaign promotions. Using the dense social networks of a small group of supporters, these parties could take advantage of Tunisia's close-knit social structure to reach a high number of voters with their message.

One political party was observed to have no more than 15 to 20 active campaign members. Yet these individuals had, on average, more than 1,500 friends apiece. Assuming some overlap, and based on a conservative estimate, this group was able to reach an active audience

One party was observed to have no more than 15 to 20 active campaign members. Yet these individuals had, on average, more than 1,500 Facebook friends apiece.

of more than 15,000 people. If one assumes that even a small fraction of these people shared the original political content to their own networks, widespread or "viral" distributions of political messages were easily within the reach of relatively marginal political factions.

Meeting the E-Activists[4]

As has been outlined, there is immense diversity among those using online media to advance political and social agendas. In this section, several archetypical e-activists are identified.

POLITICAL CAMPAIGNER

Demographic
23, Male, Tunis metropolitan region

Level of Education
Graduate studies in Computer Science

Profession
Student

ICT Tools Used
Facebook, Flickr, YouTube, listservs

Political Use-Case
Sayed is a budding software engineer, but he has a difficult time focusing on his studies—instead, he is consumed with the fate of his political party.

As the party's director of communications—a volunteer role—he is responsible for promoting his party's message in a wide array of forums. Because his party is small and resource-poor, there is no better place to do so than the Internet.

Sayed films almost all of the party's public meetings with his camera and posts edited versions to YouTube; he then usually distributes this content via the party's Facebook page with supporting commentary. Sayed also takes advantage of the networks of his fellow partisans to promote the group's message.

COMMUNITY LEADER

Demographic
60, Female, Kasserine Governorate

Level of Education
High school

Profession
Housewife

ICT Tools Used
Facebook, small website forums

Political Use-Case
Esma is a committed member of her community. In her 20s and 30s, she was a schoolteacher, before leaving work to take care of her family. Her work as a teacher brought her close to the needs of her neighbors, and she was frequently frustrated by the disparity she saw between conditions in her community and other regions.

Before the revolution, Esma was actively providing social benefit services to her community under the radar of the local government. She turned to Facebook and forums for expatriates to make contact with Tunisians who had moved abroad, and used these channels to communicate her local circumstances and to raise money for her underground Islamic charity.

Since the revolution, Esma has rallied support among these same contacts to continue and expand her social benefit work. She has also turned her connections into a base of political support for a successful run for the Constituent Assembly as a local member of Ennahda, the predominant Islamic party.

INTERIOR ACTIVIST

Demographic
32, Male, Kasserine Governorate

Level of Education
High school

Profession
Elementary school teacher

ICT Tools Used
Blogger, YouTube, Facebook

Political Use-Case
Ahmed is committed to his students. Watching them sit dazed in class as they faced hunger or unmet medical problems angered and frustrated him. Before the revolution, he actively blogged—under a pseudonym—about the challenges facing his community. He would post photos of sick children or their families to Facebook with pleas for support.

These efforts gained the attention of several social development NGOs working in the region. During the revolution, these relationships helped Ahmed make conn-ections with foreign journalists. The photos and videos of unrest he gave them were published to audiences across the world.

Empowered by this exposure, Ahmed dropped his pseudonym during the revolution. Despite facing violence and oppression by groups loyal to the regime, he continued to broadcast the stories of his community.

Today, Ahmed is doing his best to document the troubles of families in need and connect them with nascent community service organizations that might have the capacity to serve them.

MEMBER OF THE INTERNATIONAL HACKTIVIST GROUP "ANONYMOUS"

Demographic
17, Male, Tunis

Level of Education
High school

Profession
Student

ICT Tools Used
Rootkits, DDoS, Command line programming

Political Use-Case

In many ways, Yussef is a typical teenager: he enjoys parties, dating, and talking late into the night over coffee with friends. Yet Yussef also represents a leading edge of Tunisian society.

Naturally gifted with computer systems, Yussef has been an active online hacker since the age of 11, when he began to break into sensitive government networks. By the age of 13, he had successfully compromised the information systems of the Tunisian Ministry of the Interior. He was also engaged in online political advocacy.

His efforts brought him to the attention of the Ben Ali government, who was quick to crack down on Yussef in the early days of the revolution; soon after protests started, he was thrown in prison and physically assaulted.

Such activities have not deterred Yussef. He remains an active participant in political advocacy groups, helping them leverage technological tools to spread their message. Given his experiences, he believes that he and his peers have no role inside government institutions. Instead, he says, they are better suited "standing on the outside—throwing rocks at those we know are doing harm." And how does he know who is doing harm? Naturally, he's watching their computer networks.

Conclusion:
PURSUING LEGITIMACY:
Online Communities Seek Representation and Engagement

The overt political actions of Tunisian online communities leaves little doubt as to the seriousness of their purpose. The participants in these groups intend to change the political status quo and to influence the opinions of influential figures. These goals are the hallmark of a robust civil society.

Yet for all their organizational development, these groups have yet to find a comfortable role among Tunisia's new and changing institutions of government. Existing authorities are eyeing this new power base warily.

One must look no further than the Tunisian Internet Agency (TIA) to see this dynamic in action. The TIA has formal responsibility for the administration of Tunisia's online ecosystem. Prior to the revolution, it was responsible for the censorship and surveillance efforts that caused many online activists to be hassled and imprisoned by the authorities.

In response to the newfound influence of these groups, the post-revolutionary TIA is now embracing online activists, at least in its public messaging.

One telling move, calculated for maximum political impact, demonstrates the influence that online communities can wield: the TIA has publicly announced that the same network hardware that was previously used to monitor and harass activists has now been converted to a database for open-source projects.

With a close relationship to the realms of online communities, the TIA had no choice but to engage with them as important stakeholders. Other authorities are less certain. Many government officials, as well as politicians newly brought to power, express concern about the development of a relatively unconstrained power base.

The fate of these communities of bloggers, hackers, and engineers is uncertain. Their path from organic online networks to a position of substantial influence in real-world politics is uncharted. Yet there might be no better barometer of Tunisia's political development than whether these communities can meaningfully gain access to the political process. ○

BUILDING A 21ST CENTURY SOCIAL CONTRACT:

Tunisia, Technology, Transformation

The changes occurring in Tunisia today are a manifestation of larger trend lines that cannot be ignored. From Cairo to Damascus to Moscow to Wall Street, popular communities are increasingly turning to the public square—digital or analog—to demand changes to the status quo.
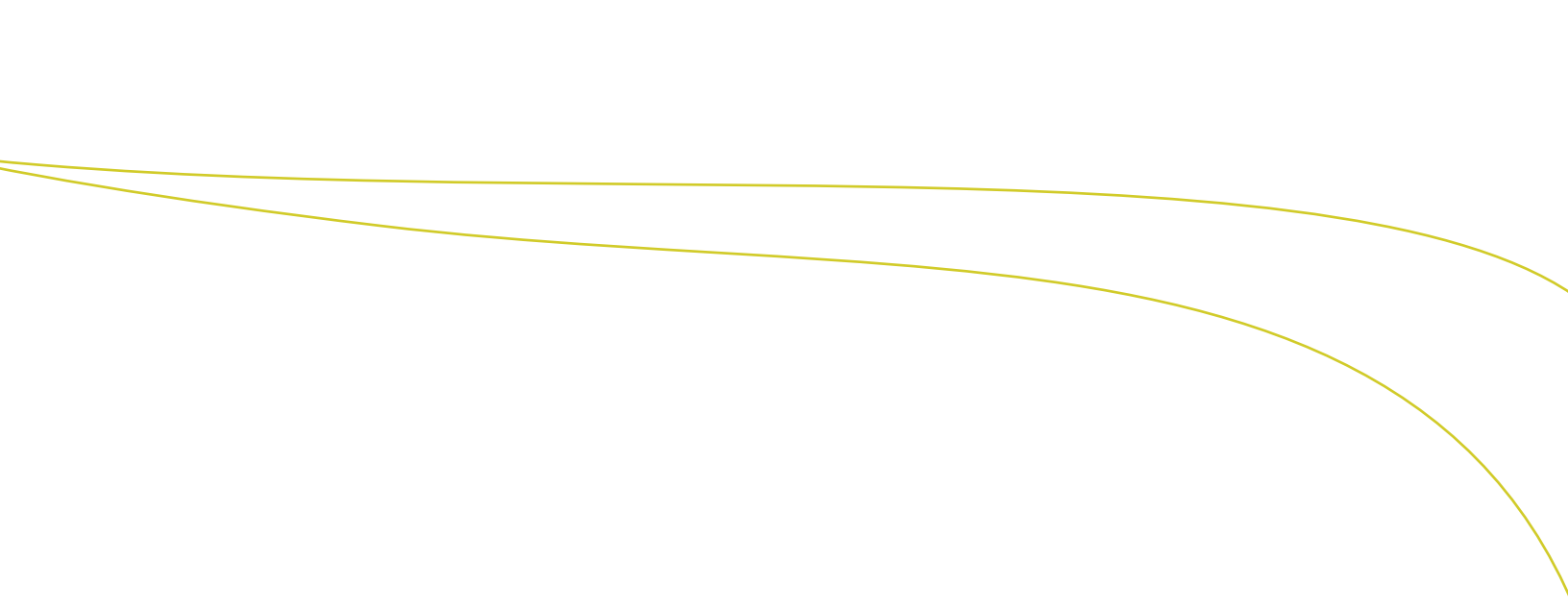
These disparate movements are driven by a common underlying reality: the modern global economy is rife with disparity. A disproportionate amount of wealth is controlled by a relatively small set of actors. This is not a drastic departure from historic economic patterns, but modern technology has given the marginalized a greater awareness of this disparity, and increased their connections to others in similar conditions.

This shift has created a pattern that is consistently discernible in recent events: First, disparate conditions calcify in a given country, region, or community. An increasingly connected population among those excluded from power and wealth grows conscious of their unfair conditions, and this consciousness spreads into growing unrest. Finally, prompted by some small catalyst, this consciousness explodes into a popular political movement.

This "pattern of empowerment" has played out differently in different contexts. In Egypt and Syria, the ruling forces have managed to fight an ongoing battle to maintain control. In Tunisia, more positively, the world has witnessed an undeniable blossoming of free expression, and the emergence of an increasingly responsive and representative government.

Beginning with the corruption that developed in Ben Ali's government and erupting with the catalyst of the fruit vendor in Sidi Bouzid, Tunisia's story is a clear portrait of the changing relationships between individuals and their states. It is this epitomization of the larger arc of social change that draws so many observers to watch Tunisia's journey forward.

In this journey, we are beginning to see and understand the next steps of how the pattern of empowerment plays out, after the revolutionary dust settles. What happens after an unequal society is disrupted? What happens when change creates new opportunities for political transformation, institutional reform, and social progress? There are few historical answers to those questions, and there are even fewer in our modern digital age. The Tunisian people are generating one set of

answers at this very moment. Given the country's critical geopolitical position, their ultimate answers will be an important barometer of the larger global story of 21st century civilization.

In the coming decades, technology will continue to drive the transformation of accepted notions of what it means to govern, educate, trade, fight, and heal. As this shift takes place, there will also be countless opportunities to reexamine the structures of society, with an eye towards improving them. Policy makers, political leaders, and other influential stakeholders will be continually challenged by connected populaces that are demanding greater representation. In the spirit of representative governance, this should not be seen as a fundamental threat to global stability. Citizens deserve an expanded ability to ask for inclusive economic opportunities, inclusive social safety nets, and the fair allocation of national resources.

The real threats to global stability are when those in power are unwilling to seize these opportunities for inclusion. In a world where increasingly more people are aware of their unfair circumstances—and, more importantly, how they could be improved—such obstinance on the part of political leaders is not likely to hold the line.

To address the risks of such continued upheaval, policy makers are going to be continuously asked to engage with their constituents about the processes, institutions and frameworks that drive daily life. A more nuanced understanding and acknowledgement of the needs of diverse communities will become increasingly necessary for the design of public policy that is capable of withstanding increased demands for change.

With an improved understanding of these popular sentiments, world leaders can demonstrate that their decisions are not based purely on the needs of a relative few, but that they are genuinely responsive to the needs of the majority.

This is democratic policy-making for a democratic age. And right now, the people of Tunisia are determining one way that this process just might work. ○
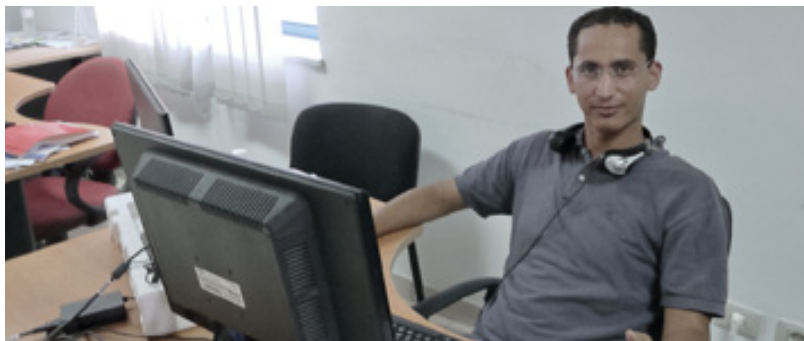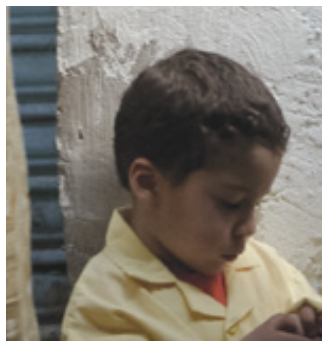
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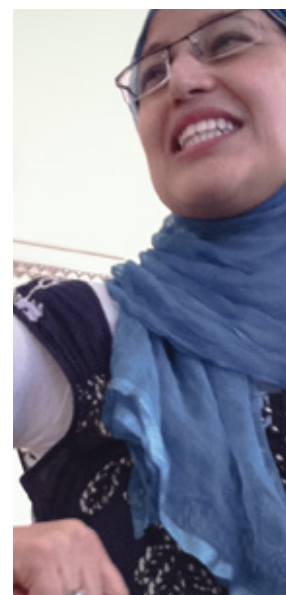
Annex 1
KEY TERMS

2G: Second-generation mobile network or service.

3G: Third-generation mobile network or service.

Ali Seriati: Tunisian General, former Presidential Security Chief, arrested on 14 January 2011.

Ben Ali (Zine el-Abidine Ben Ali): President of Tunisia from 1987 to 14 January 2011.

Broadband: Internet access with a minimum capacity of 256 kbit/s.

Centre de Calcul EL Khawarizmi (CCK): Tunisian Internet service provider, managing the "Réseau National Universitaire" (RNU) project since its creation in 1997.

Centre National de l'Informatique (CNI): Public entity founded in 1975 to handle technical product development and associated services for all government agencies and offices.

Dial-up: Internet access that uses the facilities of the public switched telephone network to establish a dialed connection to an Internet service provider (ISP) via telephone lines.

Douz: Town in central Tunisia.

El Fahs: Town and commune located in the Zaghouan Governorate, 60 km south-west of Tunis.

El Kef: City in northwestern Tunisia and the capital of the Kef Governorate.

Ennahda: Moderate Islamist political party, currently the largest political party in Tunisia.

Geographic Information Systems (GIS): A system designed to capture, store, manipulate, analyze, manage, and present all types of geographically referenced data.

Kasserine: Governorate situated in west-central Tunisia on the frontier with Algeria.

Lazhar Bououni: Curent Minister of Justice and Human Rights and former Minister of Higher Education and Research of Tunisia.

Leila Trabelsi: Wife of Zine el-Abidine Ben Ali.

Ministry of Education (MoE): MoE is responsible for defining Tunisia's national policies in the areas of pre-school education, basic education, secondary education and vocational training, for implementing these choices and for evaluating their results.

Ministry of Higher Education and Scientific Research (MoHESR): MoHESR is responsible for developing and implementing Tunisia's higher education and scientific research policies, as well as monitoring and coordinating the activities of the country's higher education and research institutions.

Ministry of Social Affairs, Solidarity and Tunisians Abroad (MoSASTA): MoSASTA is responsible for implementing Tunisia's social policies in the fields of labor, professional relations, professional safety, social security, promotion of vulnerable categories and categories with specific needs, adult education, social housing, and the Tunisian expatriate community abroad.

Ministry of Vocational Training and Employment (MoVTE): MoVTE is responsible for implementing Tunisia's national policies in the field of employment and vocational training and for ensuring their implementation and evaluation.

Mohamed Ghannouchi: Former Prime Minister of Tunisia and self-proclaimed acting President of the country for a few hours starting 14 January 2011.

Mohammed Bouazizi: Tunisian street vendor who set himself on fire on 17 December 2010. His act became a catalyst for the Tunisian Revolution and the wider Arab Spring.

Monastir: City on the central coast of Tunisia, 162 km south of Tunis.

Moncef Marzouki: Current President of Tunisia, human rights activist, and physician.

Mustafa Ben Jaafar: Tunisian politician and doctor who has been President of the Constituent Assembly of Tunisia since November 2011.

Nabeul: Coastal town in northeastern Tunisia and capital of the Nabeul Governorate.

Orange Tunisie: A fixed-line, mobile telecommunications, and Internet operator, part of France Telecom Group.

Rached Ghannouchi: Tunisian Islamist who co-founded the Ennahda Movement.

Réseau National Universitaire (RNU): Project aimed at deploying the Internet in all academic institutions, research laboratories and administrative services in Tunisia.

Sfax: City in Tunisia, located 270 km southeast of Tunis.

Sidi Bouzid: A city in Tunisia and capital of the Sidi Bouzid Governorate, located in the center of the country.

Sousse: City in Tunisia, located 140 km south of Tunis, and capital of the Sousse Governorate.

Technopark: A space dedicated to scientific research, generally grounded in business, often associated with institutions of higher education.

Thala: Town and commune in Tunisia, located in the Kasserine Governorate.

Tunis: Tunisia's largest city, and capital of both the Tunisian Republic and the Tunis Governorate.

Zaghouan: Town in the northern half of Tunisia, and capital of the Zaghouan Governorate.

Annex 2
PROJECT APPROACH

In the work of governance, there is sometimes a gap between those who create policies and those who are affected by them. Policy discussions and planning processes can happen at a distance, both physical and cognitive, from the communities on the receiving end. While well-intentioned, the results of these processes often fail in the face of real-world ambiguities and contingencies.

To bridge this gap, Reboot uses a human-centered, field-based research approach to inform the development of effective policy. When properly applied, this approach can help design programs and investments that are more representative, responsive, and accountable.

Our approach has a special resonance with the subject of this report: Tunisia's revolution was truly a popular movement. To design policy in support of this post-revolutionary society without listening to the voices of the movement would be to ignore the spirit and demands of the revolution itself. This study's inclusive ethnographic approach represents a democratic method for a democratic period.

A great diversity of individuals drove the revolution; to understand the needs, behaviors, and aspirations of Tunisia's current actors, a great diversity of voices has been necessarily represented. This study includes not just the perspectives of the powerful in Tunis and Sfax, but those of the poor farmers, housewives, and traditionally marginalized populations of places like Thala and El Fahs, all of whom played an important part in the country's transformation.

The investigation team spoke with more than 130 Tunisians: sitting government officials, out-of-work students, farmers, hospital workers, police, army officials, activists, and community organizers all had a voice in this report. The team also traveled widely throughout Tunisia, with an intentional focus on the country's interior, as resources and power have historically been concentrated along Tunisia's coast. Interviews were conducted in Arabic and French, and with people in the places where they live, work, and socialize. By engaging with all socioeconomic levels, the process developed a nuanced and broadly representative portrait of the needs of Tunisians in the post-revolutionary period.

The study used the tools of journalism and applied ethnography to build a rounded and complete picture with as little bias and influence as possible. Specific methods included structured and unstructured contextual interviews, service observations and trials, focus groups, home visits, and street intercepts. Applied to policy goals, this approach

builds deep understandings of social, economic, and political contexts, enabling informed analyses of how community needs can be met.

Additionally, the investigation team developed a realistic understanding of the constraints the country faces at the government level through embedded study with present and future leaders, which revealed their visions, capacities, and limitations.

Thus, this publication reflects recommendations and insights that are based on broadly expressed points of view and ground truths. This approach has produced nuanced and personal insights into the hopes, fears, and challenges that Tunisians will continue to face in the months and years ahead.

In this society-building process, the World Bank is playing a critical role as advisor, policy maker, and investor, as it has in so many of the world's challenges. This research is the latest in a series of initiatives that demonstrates the World Bank's commitment to meeting the needs of diverse citizens from all levels of the global village. Reboot applauds the organization's embrace of a human-centered, ground-up approach to policy making.

The hope is that policy makers and other global leaders can hear the voices of Tunisians in these findings and use these resources to create solutions that will help deliver on the promises of the Tunisian revolution.

Annex 3
ABOUT REBOOT

Reboot is a social impact consultancy based in New York. We help organizations discover and design better ways to serve communities worldwide. Our clients include local and national governments, small non-profits, international non-governmental organizations, and corporations of every size. To every engagement, Reboot brings a team of seasoned experts, including ethnographers, business analysts, policy specialists, interaction designers, development economists, and technologists.

Our process begins with rigorous ethnographic field research that uncovers critical insights and understandings about the needs, behaviors, and aspirations of organizations and the people they serve. We combine these unique research insights with robust policy and market analyses to produce actionable strategies and solutions, with an emphasis on achieving optimal results through incremental development, continuous testing, and iterative improvement.

Our team has on the ground experience in more than 45 countries and has extensive experience in helping clients understand how to leverage technology to support their governance and international development aims. Our leaders continue to provide thought leadership in the field of design for social impact through extensive teaching and published work. Our core expertise is improving services, programs, and policies in the areas of governance, access to information, education, healthcare, financial inclusion, and human rights.

RE BOOT
www.theReboot.org

Annex 4
ABOUT *info*Dev
& THE WORLD BANK

infoDev

Innovate. Connect. Transform.

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THE WORLD BANK

www.worldbank.org

*info*Dev is a global partnership program in the Financial and Private Sector development Network of the World Bank Group. Its mission is to enable innovative entrepreneurship for sustainable, inclusive growth and employment. In order to unleash the potential for entrepreneurship to improve productivity and competitiveness, *info*Dev provides support as entrepreneurs move their ideas from mind to market. It does so through supporting the growth of innovation ecosystems, such as through an unrivaled global network of nearly 400 locally owned and operated business incubators.

As countries pursue their development goals, *info*Dev's work provides thought leadership and development results. Knowledge comes from many voices and throughout its work, *info*Dev seeks to facilitate global communities of practice. These knowledge sharing networks bring together key sources of expertise from around the world to enable learning and feedback. These wide networks also feed into *info*Dev's research agenda. Reliable analysis is key to effective operations, so *info*Dev works with a wide variety of partners to produce cutting-edge knowledge products that serve donors, governments, and practitioners. *info*Dev has a history of producing flagship reports and toolkits that serve as objective, go-to sources for policymakers.

*info*Dev is uniquely positioned within the World Bank Group, with the agility to pilot new concepts and the ability to mainstream them into larger development initiatives. The World Bank is a leading source of financial and technical assistance for developing countries around the world. Its mission is to rid the world of poverty by providing resources, sharing knowledge, building capacity, and forging partnerships in the public and private sectors.

Annex 5
ENDNOTES

INTRODUCTION: WHY TUNISIA MATTERS

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