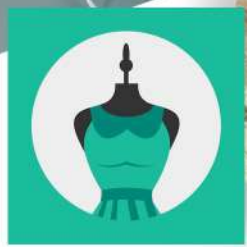
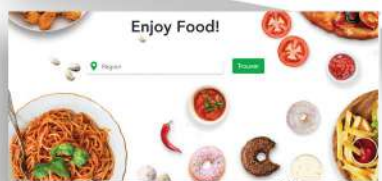
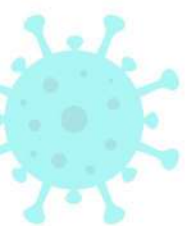


THE NEW MARKET TRENDS IN THE LIGHT OF COVID-19 PANDEMIC

REGIONAL REPORT



**Empowering Women
Entrepreneurs in the MENA
Region towards Equal Access
with Men to Business and Trade**

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EMPOWERING WOMEN ENTREPRENEURS IN THE MENA REGION
TOWARDS EQUAL ACCESS WITH MEN TO BUSINESS AND TRADE

**THE NEW MARKET TRENDS
IN THE LIGHT OF COVID-19 PANDEMIC:
REGIONAL REPORT**

Edited by
**Center of Arab Women
for Training and Research
CAWTAR**

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LIST OF ABBREVIATIONS

Abbreviation	Definition
GDP	<i>Gross Domestic Product</i>
CATWAR	<i>The Centre of Arab Women for Training and Research</i>
CAPMAS	<i>Central Agency for Public Mobilization and Statistics</i>
MENA	<i>Middle East and North African Countries</i>
SMEs	<i>Small and Medium Enterprises</i>
GEDI	<i>Global Entrepreneurship and Development Index</i>
IMF	<i>International Monetary Fund</i>
ILO	<i>International Labour Organization</i>
IDI	<i>In-depth Interviews</i>
UNIDO	<i>United Nations Industrial Development Organization</i>
UNCTAD	<i>United Nations Conference on Trade and Development</i>
UNESCO	<i>United Nations Educational, Scientific and Cultural Organization</i>
B2C	<i>Business to Customer</i>
USSD	<i>Unstructured Supplementary Service Data</i>
UNDP	<i>United Nations Development Program</i>
GDP	<i>Gross Domestic Product</i>
GBV	<i>Gender Based Violence</i>
USD	<i>United States Dollar</i>
P2P	<i>Peer to Peer</i>
B2B	<i>Business to Business</i>
VPN	<i>Virtual Private Network</i>
ICT	<i>Information and Communication Technology</i>
WWTC	<i>World Travel and Tourism Council</i>
COD	<i>cash on delivery</i>
SMS	<i>Short Message Services</i>
EMDEs	<i>Emerging Markets and Developing Economies</i>
HCP	<i>Haut Commissariat au Plan</i>
MCIT	<i>Ministry of Communication and Information Technology</i>
CCP	<i>Compte Chèque Postal</i>

Executive Summary

The following report attempts to derive the main market trends post COVID-19 for six Arab countries which are as follows: Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia. The main sectors of focus which are analyzed in this report are agri-business, textile and ICT. Those sectors have been selected due to their recognition as high-potential sectors for women employment in a previous study conducted. The findings in this report were formulated through a cross-cutting market trends analysis for the six countries assessing the main commonalities and differences between the countries in terms of market trends, consumption behavior and identifies recommendations for potential market opportunities- all information which are meant to inform future for small investors who want to create their own businesses. Both secondary and primary research was utilized to obtain the necessary information for this report. Primary research was conducted with country sectoral experts, where they were able to validate the secondary information obtained in addition to providing their own insights on the market trends in their respective countries with the outbreak of the pandemic. The following sections summarized the main report findings and recommendations.

Regional Landscape

- The six target countries share similar macroeconomic and socioeconomic characteristics. However, it is crucial to evaluate the economic dynamics in each country to identify potential business opportunities
- Variations in size of economic activity are witnessed across target countries. Egypt, Algeria and Morocco occupy the top three positions in terms of size of Gross Domestic Product (GDP) with values of 303, 172 and 120 USD billions respectively. Despite Jordan being the smallest in GDP size, it remains appealing to foreign investors due to its skilled workforce.
- The services sector is the largest contributor to the six economies. The services sector in Lebanon is the largest among the six countries with a total contribution of 78.9 percent, with banking and tourism being the core activities of the sector. Algeria and Egypt are the among the least ranking countries in their services sector contribution to GDP, even though the sector contributes by 50.5 percent and 46.4 percent respectively to the countries' total GDP.
- The industrial sector is the second largest contributor to GDP among the six countries. Egypt dominates the industry sector with its GDP contribution of 35.6 percent, given that the Suez Canal generates the majority of Egypt's foreign income. In contrast, Lebanon also ranks lowest in its industrial sector's contribution to GDP, as it only yields 12.8 percent, constituting mainly manufacturing of agri-food products (26 percent).
- The agriculture sector is the smallest contributor to GDP in the six economies. In Algeria, the sector is the largest with a contribution of 12.3 percent, while for the remaining five countries; the agricultural sectors have relatively moderate contribution levels to GDP.

Selected Sectors

Agri-food Sector

- The sector is of strategic importance to the region, as it constitutes around 13 percent of the GDP in Middle East Countries⁽¹⁾ and is crucial for maintaining the region's food security. Moreover, food consumption is largely rising in the MENA region, owing mainly to population growth and the relative improvement in income levels before the COVID-19 pandemic.
- The sector encountered multiple challenges amid COVID-19 outbreak. First, Production capacity was halted due to the inability to access food raw materials and due to restrictions in Labour mobility, which forced food manufacturers to operate below their full capacity. Second, Closure of food outlets like restaurants and hotels restructured food demand as large retailers who were only dealing with these outlets needed to divert to selling directly to consumers. Third, With the reduction in people's incomes and with the rise in uncertainty, some consumers started reducing their demand for certain kinds of food.
- The new normal imposed by COVID-19 pandemic influenced consumers to change their behaviour when it comes to food consumption habits. For instance, consumers started paying more attention to how their food choices may affect their health. Thus, their preferences shifted towards consuming healthier, nutritious and immunity boosting food including organic food. As well as relying on locally produced goods. It has been also highlighted that a growing consumer market have been willing to compromise the shelf life of the product in exchange for more environmentally friendly products, placing additional pressure on manufacturers to be more sustainable.
- The changes that occurred to consumers behaviour amid the pandemic highlighted the need for root changes in the functioning of agri-food systems in response to the increasing demand for nutritional food, hygienic packaging standards, sustainability, and traceability of products. Adding to that, the fragilities in food supply chain that COVID-19 exposed had further emphasized the need for digitalization of logistics and operational process.
- The agri-food sector showed ability to meet the emerging consumer preferences during COVID-19 outbreak, where it was able to shift rapidly to the sale of groceries online and it was able to introduce variety of healthy food that is high in nutritional value. However, one of the areas that the sector needs to focus more on is the innovation in the process of agricultural production to ensure that, in the future, disruptions in the supply chain will not be as severe as the one that happened during COVID-19

Textile Sector

- The relative importance of the textile sector to the target countries is reflected in its contribution to GDP and employment. In Egypt, it is the second largest industrial sector, accounting for around 3.5 percent of GDP. In Lebanon, the textile industry comprises around 14% of the total industrial sector. In Tunisia, it contributes by 26.6 percent to GDP. However, it has a relatively small presence in Algeria's local market; imports account for nearly 90 percent of textile supply and local products. For Jordan, the sector is comprised of 75,000 employees as well as 1260 establishments of which 80 percent are concentrated in clothing.

1. Chloe Bernadaux, *Agricultural technology in the Middle East: Sowing the seeds of the future*, 2021, <https://www.mei.edu/publications/agricultural-technology-middle-east-sowing-seeds-future>

- Textile was deemed one of the main sectors severely affected by the pandemic of COVID-19. This was mainly felt in MENA countries due to the supply chain disruption and demand reduction. The pandemic has consequently impacted the manufacturing process as well as the trade movement, particularly for textiles, electronics, and mechanics. The reliance on imported raw materials was one of the main challenges facing this sector, which increases the risk of obstructing production.
- One of the main effects of COVID-19 on consumers behaviour was the reduction in demand for clothes that happened as result of the decline in the purchasing power across the economies of focus.
- Due to the challenges that COVID-19 imposed and alongside changes in consumption behavior and preferences, new market trends and opportunities started to emerge. For instance, textile manufacturers started looking for alternative materials to produce textile and apparel through using recyclable materials like plastics and tires. Moreover, e-commerce activities in the sector started to gain popularity across the countries of focus among both manufacturers and consumers. For example, peer to peer (P2P) platforms are developed to promote the sale of second-hand clothing, which is in line with the reduction that took place in people's incomes. Adding to that, business to business (B2B) platforms are developed to connect manufacturers and retailers avoiding supply chain disruptions.

ICT Sector

- The relative importance of the ICT sector to the target countries is reflected in its contribution to GDP, employment and trade. In Egypt, the industry had employed around 209 thousand people in 2018. In Lebanon, it contributed by around 2.1 percent of the country's GDP in 2018. As for Algeria, latest available data show that the contribution of the ICT sector to Algeria's GDP is 4.7 percent, while in Tunisia, the sector contributed by 9 percent to GDP in 2017. In Morocco, the ICT sector is relatively new as well and is mainly focused on electronic equipment. As for Jordan, the sector employed 17,698 people in 2018 alone, with men holding 67 percent of all jobs.
- Despite the many downturns that faced the other sectors in response to COVID-19, Information and Communication Technology (ICT) was remarked as a resistant sector in the face of the prevailing challenges. Despite the lockdown, social distancing, and prevention measures, ICT sector remained robust in the face of the pandemic. This is attributable to the rising demand on online platforms as well as the shifts towards digital transformation.
- However, the sector still suffers from several rooted challenges that must be addressed to ensure the future growth of the sector namely, poor infrastructure, the shift in consumers priorities to buying necessities and the lack of strict property rights.
- There is a predominant change in people's mindsets and their technological engagement as consumers have started to use the internet and gadgets more frequently during isolation, for things that are essential—such as work—as well as things conventionally done in person, such as grocery shopping.
- ICT sector. The dominant trend is concentrated in the shift towards digital transformation. This was due to the general challenges imposed by COVID-19 in parallel to the encounters ICT sector faced. Consumers, businesses, retailers as well as education were all pushed to resume remotely. This led businesses to rely primarily on their online platforms to sell their products/ services, such as e-health platforms, retail shops, etc, and also led to the emergence of new industries, such as the FinTech industry.

Introduction

The outbreak of COVID-19 has triggered one of the largest economic crises worldwide. The pandemic fallout led to major job losses, trade diminishing and restraints in addition to reduced productivity all around the world. While employment began to rebound within a few months, unemployment remained high throughout 2020. The prevailing health pandemic has further amplified the predominant gendered socio-economic challenges, particularly in terms of access to, and control over resources such as services, employment, income, business, etc. This situation is even more severe in the MENA region, alongside other lower to middle income countries, due to the slow vaccine deployment as it led to more damaging restrictive measures that in turn reduced the resource capacity to such economies. The pandemic imposed a significant pressure on all the economies of the region. Interrupted economic activities compounded by lower production and employment rates affected many communities' livelihood. It was also a litmus test for the overcrowded and under-resourced healthcare systems of the MENA region.

The COVID-19 pandemic highlighted the society's reliance on women on the front lines and at home, while also revealing systemic inequities in every domain, from health to the economy, security to social protection. Women and girls endure disproportionate impacts with far-reaching consequences in times of crisis, when resources are taxed and institutional capacity is restricted, which are magnified in contexts of fragility, conflict, and catastrophes. Hard-won victories for women's rights are also in jeopardy. Responding to the pandemic is about more than just redressing long-standing disparities; it's also about creating a resilient environment that benefits everyone, with women at the forefront of recovery. This has also increased women's vulnerabilities and amplified gender inequalities in the public and private spheres. Its socio-economic impact has had - and continues to have - profound implications for them, from exacerbating already unthinkable levels of gender-based violence (GBV) (i.e., violence against women) to curbing women's engagement in the labour market and their businesses.

Observing this exacerbation of economic situation, and under developmental efforts by The Centre of Arab Women for Training and Research (CAWTAR), launching the project 'Empowering Women Entrepreneurs in the MENA Region towards Equal Access with Men to Business and Trade Markets'. This report attempts to derive the main market trends post COVID-19 for six Arab countries which are as follows: Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia. The main sectors of focus which are analyzed in this report are agri-business, textile and ICT. This is depicted mainly in terms of product changes, businesses adaption, and process innovation. Increasing women's economic participation and empowerment means access to business and trade markets, mentoring, capacity building and training as well as self-empowerment and support to leadership roles. Only creation of conducive environment will contribute to women entrepreneurship promotion and integration in business and trade markets thanks to investment on strengthening their knowledge and specific skills as well as competencies.

The findings in this report were formulated through a cross-cutting market trends analysis for the six countries assessing the main commonalities and differences between the countries in terms of market trends, consumption behavior and identifies recommendations for potential market opportunities- all information which are meant to inform future for small investors who want to create their own businesses. Both secondary and primary research was utilized to obtain the necessary information for this report. Primary research was conducted with country sectoral experts, where they were able to validate the secondary information obtained in addition to providing their own insights on the market trends in their respective countries with the outbreak of the pandemic. The following sections summarized the main report findings and recommendations. The report is divided as follows:

- Section one will focus on presenting the methodology used throughout the project.
- Section two will give an overview of the challenges and changes in consumption behavior because of COVID-19. This will be followed by an analysis of emerging market trends and opportunities for entrepreneurs to capitalize on.
- Section three will present a summary of the main findings followed by consultant recommendations.

Methodology

The methodology is tailored and applied based on the main objective of the study, which is to «Empower Women Entrepreneurs in the MENA Region towards Equal Access with Men to Business and Trade Markets», with the goal of minimizing the gender gap in the entrepreneurial ecosystem of the MENA region. Accordingly, the conducted regional assessment, conducted between October 2021 and March 2022, employed both secondary and qualitative research tools – i.e., in-depth interviews (IDIs) as well as stakeholders' workshops – as follows:

Desk review

A comprehensive desk review of secondary sources was conducted to formulate an overview of the global and regional economic market trends with an emphasis on the effect of the recent COVID-19 pandemic. As such, below are the main themes that were focused on through the conducted desk research:

- The impact of the pandemic on the economic activities with an emphasis on the sectors of focus which are: agri-food, textile, and ICT.
- Emerging market trends in the sectors of focus.
- The recent changes in consumer behavior trends.
- The innovations and technological advancements in target countries.

The above analysis is especially important as it sets the foundation for evaluating the sector's potential amid COVID-19 outbreak through assessing potential opportunities, which may have risen for each sector in line with the recent changes in consumer behavior. Thus, Potential opportunities are mapped through mapping leading start-ups in each of the target sector by country and by assessing how their process fit the new consumption trends imposed by COVID-19.

Qualitative primary research (N= 20 IDIs)

In addition to the conducted secondary research, primary data collection was carried out as to validate secondary data at hand through qualitative in-depth interviews (IDIs) with key industry experts. As reflected in table 1 in the annex, the experts interviewed included business owners and sector consultants.

In line with that, stakeholders' workshops with key experts in the targeted sectors were conducted to enrich the report with supplementary information and depict the main new trends rising in each sector.

Regional landscape

Macroeconomic Overview

The main objective of this section is to provide an overview of key macroeconomic indicators, namely GDP, growth and the contribution of different sectors to economic activities. This will give an indication about the potentiality of each of the target sectors in the countries of focus.

Key economic indicators

As reflected in Figure 1 below, the top three countries in terms of economic size over the past five years are Egypt, Algeria, and Morocco respectively. Egypt's GDP recorded an average size of USD 280 billion between 2016 and 2019 with an average growth rate of 4.8 percent, while Algeria recorded an average size of USD 169 billion with an average growth rate of 1.6 percent. On the other hand, Jordan and Tunisia recorded an average GDP size of USD 42 and 43 billion respectively and they are considered the smallest among countries being studied. Even though Jordan is considered the smallest country in terms of GDP size, it remains appealing to foreign investors due to its skilled workforce, along with its well-developed health sector and tourism sector.

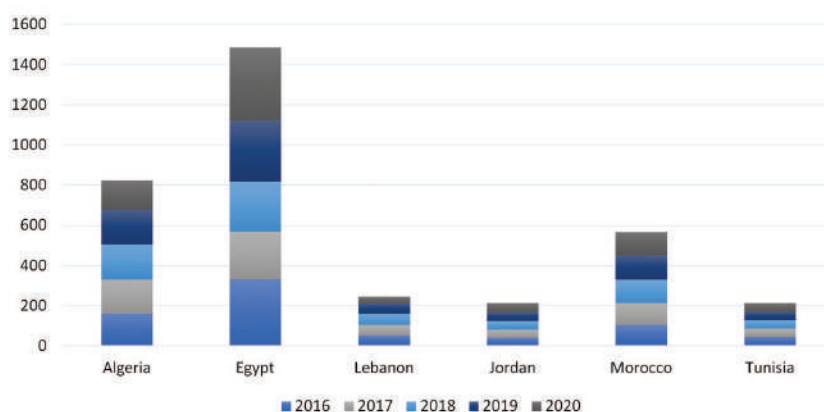


Figure 1 : GDP by Country (Current US \$). Source: World Bank⁽²⁾

2. World Bank, Data Bank Development Indicators, 2021, <https://data.worldbank.org/>

During the pandemic, all countries, except for Egypt, experienced a negative growth in their GDP as shown in the figure below depicting the countries' GDP growth rates. Generally, over the years, Egypt managed to maintain the highest rates of growth, which could be attributed to the structural reforms program that Egypt has been undergoing under the IMF loan. On the other hand, Lebanon's economy has been suffering for years with an average growth rate of -1.6 percent between 2016 and 2019- a situation pertained to high levels of corruption alongside high and unsustainable levels of public debts, which adversely impacted private investments and consumption⁽³⁾.

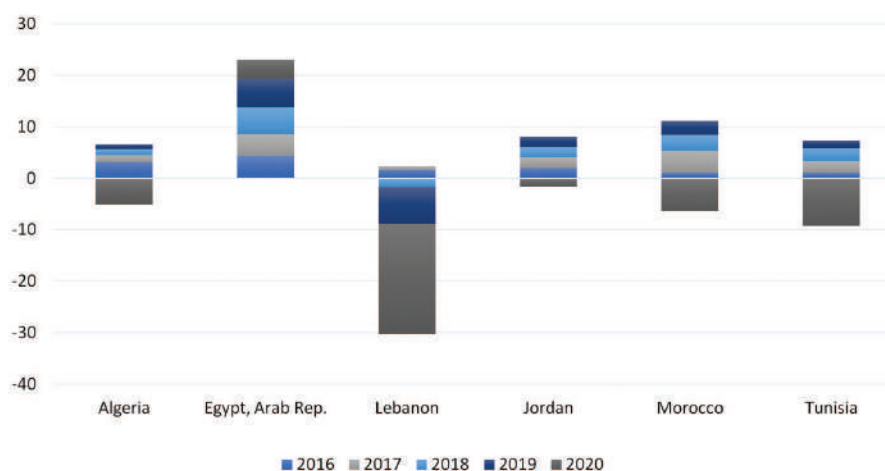


Figure 2 : GDP Growth Rates by Country (Annual %) Source: World Bank⁽⁴⁾

Even though the following sectors, namely the agriculture, industrial, and services sectors all contribute differently to the countries of focus in terms of GDP and employment, these sectors are crucial pillars in the economy for all six countries as reflected in Figure 3 below.

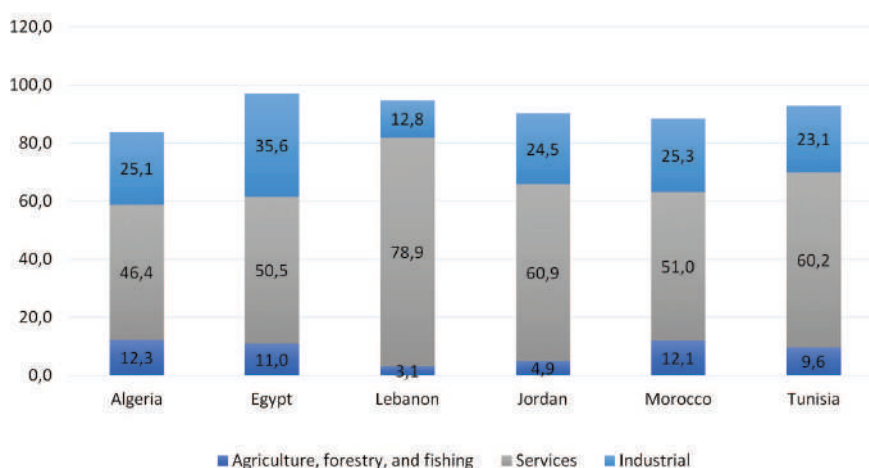


Figure 3 : Sectoral Contribution to GDP by Country in 2019 (Value Added %). Source: World Bank⁽⁵⁾

3. Altug & Neaime, Lebanon's austerity budget of 2019: a last resort to avoid crisis?, 2019, <https://theforum.erf.org.eg/2019/05/14/lebanons-austerity-budget-2019-last-resort-avoid-crisis/>
4. World Bank, Data Bank Development Indicators, 2021, <https://data.worldbank.org/>
5. Ibid

The services sector is the largest contributor to the six economies. For example, the services sector in Lebanon is the largest among the six countries with a total contribution of 78.9 percent, with banking and tourism being the core activities of the sector. Jordan, which is a popular tourism destination, is ranked second when it comes to its dependency on the services sector with the sector's contribution to GDP reaching 60.9 percent. Algeria and Egypt are the among the least ranking countries in their services sector contribution to GDP, even though the sector contributes by 50.5 percent and 46.4 percent respectively to the countries' total GDP. In a similar vein, the services sector in Tunisia is performing better than Algeria and Egypt, as it contributes with 60.2 percent, which is higher than its other counterpart such as Morocco's services sector that yields 51 percent.

The industrial sector is the second largest contributor to GDP among the six countries. Egypt dominates the industrial sector with its GDP contribution of 35.6 percent, given that the Suez Canal generates the majority of Egypt's foreign income⁽⁶⁾. In contrast, Lebanon also ranks lowest in its industrial sector's contribution to GDP, as it only yields 12.8 percent, constituting mainly manufacturing agri-food products (26 percent), followed by construction materials (12 percent) and chemical products (8 percent)⁽⁷⁾. For Morocco, the main industrial sectors include textiles, leather goods, food processing, oil refining, electronic assembly, real estate, with the emergence of a few new sectors such as chemistry, automotive parts, computers, electronics, and aerospace industry⁽⁸⁾. These sectors aid in supplying the Moroccan economy with 25.3 percent of its total GDP. Algeria's industrial sector contribution to GDP is close to that of Morocco with a contribution of 25.1 percent. As for Jordan, the key industries in the sector are mining, quarrying, and textiles⁽⁹⁾, which combined, generate a GDP of 24.5 percent. As for the Tunisian industry sector's input to GDP, it stands at 23.1 percent, with the chemicals, textiles, and clothing sectors booming until the year 2019⁽¹⁰⁾.

The agriculture sector is the smallest contributor to GDP in the six economies. In Algeria, the sector is the largest with a contribution of 12.3 percent. Despite Lebanon being almost self-sufficient in the production of fruits and vegetables, agriculture contributes with only 3.1 percent to the country's GDP with heavy reliance on dairy, livestock and cereal exports. While the agricultural sectors in Morocco, Egypt and Tunisia have relatively moderate contribution levels to GDP, contribution levels to Morocco outperform the other two countries which is in part due to the richness of Moroccan soil; the agricultural sector yields 12.1 percent in Morocco, 11 percent in Egypt and 9.6 percent in Tunisia. That said, the Tunisian agricultural sector is undeniably paramount to the country's economic growth. Olive oil, dates, olives, and fresh fruits make up the majority of agricultural exports that generate revenues and contribute massively to the GDP. Similar patterns to sectoral GDP contribution are observed in the sectoral contributions to employment, as shown in the figure below (Figure 4).

6. Credit Agricole group, International support in Egypt, [Economic and political overview in Egypt \(groupecreditagricole.com\)](https://www.groupecreditagricole.com)

7. Industry. IDAL.

8. Credit Agricole group, International support in Morocco, [Economic and political overview in Morocco \(groupecreditagricole.com\)](https://www.groupecreditagricole.com)

9. Credit Agricole group, International support in Jordan, [Economic and political overview in Jordan \(groupecreditagricole.com\)](https://www.groupecreditagricole.com)

10. Credit Agricole group, International support in Tunisia, [Economic and political overview in Tunisia \(groupecreditagricole.com\)](https://www.groupecreditagricole.com)

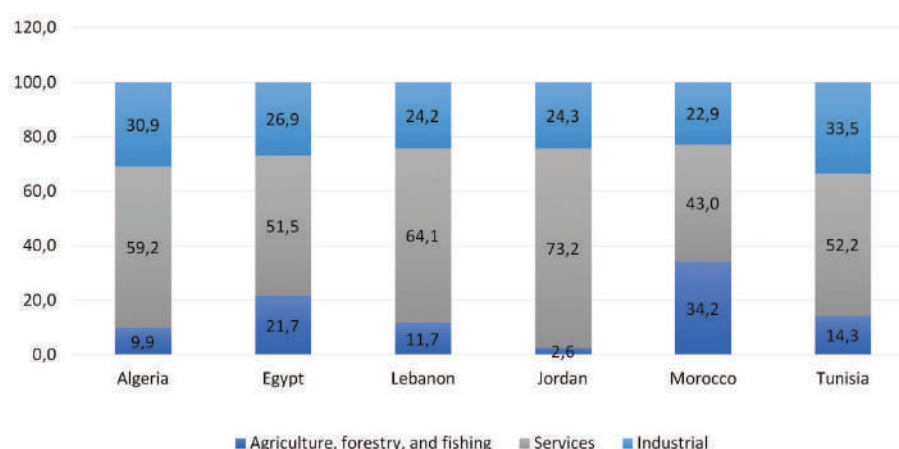


Figure 4 : Sectoral Contribution to Employment by Country in 2019 (% from total) Source: World Bank⁽¹¹⁾

Overall, the service sector accommodates the largest number of employees across the six countries. Morocco's share of employment in the services sector is the lowest, being recorded at 43 percent, while the highest concentration is found in Jordan as it employs almost three quarters of its labour force making up 73.2 percent. Furthermore, Lebanon and Algeria are among the highest employing countries in the services sector as the sector contributes with 64.1 percent and 59.2 percent respectively to the labour force of both countries. Even though Tunisia's services sector's contribution to employment is higher than the agriculture and industry sectors combined; 52.2 percent in services, 14.3 percent in agriculture, and 33.5 percent in industry. Egypt's services sector, which centralizes around telecommunications and tourism, has one of the lowest labour participatory rates in relevance to the other countries as it contributes with 51.5 percent to employment.

As for the industrial sector's contribution to the labour force, Tunisia is one of the dominating countries in the industrial sector, as it absorbs 33.5 percent of total employment, followed by Algeria which employs around 30.9 percent in the sector. This is because Algeria is one of the largest gas exporters in the world, ranking 16th in oil reserves and 11th in gas reserves. While the sector's contribution to GDP in Morocco is moderate, it scores the least in terms of sectoral contribution to employment as it only employs 22.9 percent as opposed to Egypt's 26.9 percent. However, the industrial sector in Lebanon and Jordan has a contribution somewhat similar to Morocco of 24.2 percent and 24.3 percent respectively.

In terms of agricultural employment, Morocco has the highest share of employment in the agriculture sector at 34.2 percent, while Jordan has the lowest share standing at only 2.6 percent. The second highest ranking country in the agricultural sector's contribution to employment is Egypt as it contributes 21.7 percent due to the historic importance of agriculture to the Egyptian economy. To add, Labour force participatory rates in the agricultural sector in Tunisia, Algeria, and Lebanon have high disparity levels when compared to Morocco and Egypt; the share of employment in agriculture stands at 14.3 percent in Tunisia, 9.9 percent in Algeria, and 11.7 in Lebanon.

11. World Bank (2021). Data Bank Development Indicators. <https://data.worldbank.org/>

Market trends in a post-pandemic world

1- Effect of the pandemic on the global economy

The COVID-19 pandemic and related disruptions in supply chains and lifestyle restrictions affected consumer sentiment behaviour across the globe. The COVID-19 pandemic caused a shift in consumer behaviour towards buying necessities. The consumer pulse survey conducted by McKinsey and Co. on 45 countries in 2020⁽¹²⁾ showed that while consumer sentiment diverges across countries, with some people showing more optimism than others, there is a general “shift to value and essentials” around the world⁽¹³⁾. These necessities include food, water, sanitary products, and pharmacy products⁽¹⁴⁾. A psychological explanation to this shift is that it is a “remedial response” to reduce the anxiety ensued by the pandemic, since it allows a sense of control in an otherwise uncontrollable environment⁽¹⁵⁾. This psychological change complements external factors caused by the pandemic, including the lockdown restrictions and the closure of physical stores⁽¹⁶⁾.

Even though the recurring surges of the COVID-19 pandemic in 2021 caused a decrease in the pace of global economic recovery from its strong pace in the second half of 2020, consumer demand reduced to a lesser degree than usual⁽¹⁷⁾. While the increase in infections in 2021 related to the Delta variant reduced consumer demand, the reduction was to a much more limited degree than previous waves⁽¹⁸⁾. In fact, consumer optimism and spending intent in Europe rebounded strongly between February and October 2021⁽¹⁹⁾. In addition, Asian consumers have been resilient and their spending has gone up since the initial shock of the pandemic in 2020⁽²⁰⁾. Consumer confidence rose to a record-high of 126 in 2021 Q3, up from 115 in 2021 Q2, on the back of strong improvements in India⁽²¹⁾.

This is also reflected in an increase in consumer confidence around the world beginning the fourth quarter of 2020. The global consumer confidence index (CCI)⁽²²⁾ decreased from 106 in the first quarter to 92 in the second quarter of 2020⁽²³⁾. However, in the fourth quarter of 2020, the CCI stood at 98, marking an increase of 6 points from the second quarter of the same

-
12. Since mid-March 2020, McKinsey has fielded consumer surveys in 45 countries. The surveys are conducted online in local languages on a weekly, bi-weekly, or monthly basis, depending on the region. In each country, results are sampled and weighted for a representative balance of the consuming class, based on variables including age and socioeconomic status.
 13. Charm, Tamara et al. “Consumer Sentiment and Behavior Continue to Reflect the Uncertainty of the COVID-19 crisis”. *McKinsey and Company*, 2020, <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19>
 14. Crosta, Adolfo Di et al. “Psychological Factors and Consumer Behavior during the COVID-19 Pandemic”. *PLOS ONE*, vol. 16, no. 8, August 2021, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256095>
 15. Ibid
 16. Ibid
 17. World Bank, Global Economic Prospects, January 2022, <https://www.worldbank.org/en/publication/global-economic-prospects>
 18. Ibid
 19. Bacquet, Pierre Francois et al. “European Consumer Sentiment and Behaviors during the COVID-19 Crisis”. *McKinsey and Company*, 2021, <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/survey-european-consumer-sentiment-during-the-coronavirus-crisis>
 20. Barua, Akrur. “Asian Consumers: The Pandemic Continues to Weigh on Wallets and Minds”. Deloitte Insights, Deloitte Touche Tohmatsu Limited, July 2021, <https://www2.deloitte.com/us/en/insights/economy/asia-pacific/pandemic-affect-on-asian-consumers.html>
 21. Huang, Amy and Schrader, Anke. “Global Consumer Confidence for the Asia Region Q3 2021”. The Conference Board, October 2021, <https://www.conference-board.org/topics/global-consumer-confidence/TCB-global-consumer-confidence-asia-Q3-2021>
 22. According to OECD, an indicator above 100 signals a boost in the consumers’ confidence towards the future economic situation, as a consequence of which they are less prone to save, and more inclined to spend money on major purchases in the next 12 months. Values below 100 indicate a pessimistic attitude towards future developments in the economy, possibly resulting in a tendency to save more and consume less.
 23. Statista, “Global Consumer Confidence Index 2018-2020”, August 2021, <https://www.statista.com/statistics/1035883/global-consumer-confidence-index/>

year⁽²⁴⁾. This reflects an increase in optimism regarding future developments of households' consumption, unemployment, and capability of saving.

The COVID-19 outbreak caused a large disruption in economic growth across the globe. The pandemic caused government spending, deficits, and debt in advanced economies to reach high record relative to their GDP, compounded by a potential for higher interest rates⁽²⁵⁾. At the same time, the pandemic halted efforts to decrease income inequality around the world. Households in developing countries suffered severe employment and earning losses due a contraction of governments' fiscal space⁽²⁶⁾.

According to the International Monetary Fund (IMF), global GDP has witnessed a decline of 4.9 percent in 2020, with recovery expected to be slow and gradual⁽²⁷⁾. Along with the fall in GDP levels, business models have been changing and trying to adapt to the new restrictions imposed by the virus. Global economies started exhibiting shortfalls in demand, disruptions in supply, and spill overs to emerging markets and developing economies (EMDEs)⁽²⁸⁾. Upon the onset of the virus and the global shutdown, many employers had to lay off their employees, which negatively impacted their source of income. Accordingly, consumption of goods and services dropped sharply, which in turn resulted in lost production⁽²⁹⁾.

Travel restrictions, social distancing, and school closures caused a decrease in the labour supply⁽³⁰⁾ and delayed input deliveries, which has been aggravated due to high dependence on global supply chains⁽³¹⁾, causing cross-border spill overs of EMDEs and their channels. Further, commodity prices have been lowered due to the rapid decline in demand, with oil being the most affected. According to the United Nations Conference on Trade and Development (UNCTAD), it has been projected that the world economy will suffer losses up to USD 2 trillion due to COVID-19⁽³²⁾.

On the sectoral front, the tourism sector was hit the hardest because of the pandemic, causing severe fluctuations in travel supply and demand. As such, over 50 million jobs worldwide were at risk, according to the World Travel and Tourism Council (WTTC)⁽³³⁾. On the other hand, the virus has provided the pharmaceutical industry with opportunities in vaccine and drug production.

While people of all income levels have endured losses due to the pandemic, the lowest 20 percent of the world saw their wages plummet the most⁽³⁴⁾. In 2021, their earnings continued to fall, while the wealthiest began to reverse the trend. This is because the poorest 40 percent

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24. Ibid
 25. World Bank, "Global Economic Prospects 2022". December 2021, <https://www.worldbank.org/en/publication/global-economic-prospects>
 26. Ibid
 27. Scott, Heather. "COVID crisis sinks global economy in 2020, collapsing GDP 4.9: IMF". Yahoo News, 2021, https://news.yahoo.com/covid-crisis-sinks-global-economy-2020-collapsing-gdp-144946838.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xLmNvbS8&guce_referrer_sig=AQAAAF0Soa33-9SBofpieXJRw7gB8XOjLLQ59gynUzGK1OD-h64J540opNt1HVDor14jm1mdViCearm-i7bUO8A3-sj2oH-kM4t8dv-ZPjhrhUOHfLDmZaa4rn9RciqO3r1qj8_ok0RW9JizAxf4zas7G894TPaPxAAdXYBx7BsDb7
 28. Gaba, Upasha. "Impact of the coronavirus pandemic on the global economy". Counter Currents, 2021, <https://countercurrents.org/2021/02/impact-of-the-coronavirus-pandemic-on-the-global-economy/>
 29. Ibid
 30. Ibid
 31. Ibid
 32. Ibid
 33. Ibid
 34. World Bank, "2021 Year in Review in 11 Charts: The Inequality Pandemic", 2021, <https://www.worldbank.org/en/news/feature/2021/12/20/year-2021-in-review-the-inequality-pandemic>

of the population has yet to begin to recover their income losses. The drop in income has resulted in an increase of roughly 100 million individuals living in extreme poverty⁽³⁵⁾. Men and women, predictably, have had very diverse reactions to the crisis⁽³⁶⁾ as, women have lost more jobs, income, and safety than males⁽³⁷⁾. In addition, rising inflation, especially of food price, as well as disruptions to education caused by the pandemic may further raise within-country inequality around the world⁽³⁸⁾.

Global economic recovery during the COVID-19 resurgences

While global economic recovery is taking place, it remains decelerated by the resurgence of new waves of the pandemic, particularly the Delta variant. Although current vaccine procedures have raised expectations for recovery in terms of the economic impact, new strains of the infection, as well as new surges pose a challenge for this viewpoint. Only 7 percent of people in low-income countries have access to vaccinations as opposed to 75 percent in high-income countries⁽³⁹⁾. According to IMF, the longer the differences in vaccine access persist across countries, the more the inequalities in health and economic outcomes will increase, causing further divergences between advanced economies and all other economies⁽⁴⁰⁾.

Despite supply chain disruptions, global trade increased sharply in 2021 and remittances have picked up in the second quarter of 2021⁽⁴¹⁾. Trade volumes are expected to have grown by almost 10 percent in 2021, moderating to 7 percent in 2022⁽⁴²⁾. Moreover, despite the lack of certainty, the global economy was projected to grow 5.5 percent in 2021 and 4.1 percent in 2022, according to the World Bank⁽⁴³⁾. Table 2 below presents the projected GDP growth in each region.

	2019	2020	2021e	2022f	2023f
World	2.6	-3.4	5.5	4.1	3.2
East Asia and Pacific	5.8	1.2	7.1	5.1	5.2
Europe and Central Asia	2.7	-2.0	5.8	3.0	2.9
Latin America and the Caribbean	0.8	-6.4	6.7	2.6	2.7
Middle East and North Africa	0.9	-4.0	3.1	4.4	3.4
South Asia	4.4	-5.2	7.0	7.6	6.0
Sub-Saharan Africa	2.5	-2.2	3.5	3.6	3.8

Table 2 : Real GDP (percent change from previous year). Source: World Bank 2021

35. Ibid

36. Ibid

37. Ibid

38. World Bank, "Global Economic Prospects 2022". December 2021, <https://www.worldbank.org/en/publication/global-economic-prospects>

39. Ibid.

40. International Monetary Fund, World Economic Outlook 2021. International Monetary Fund, October 2021, <https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>

41. Regional Economic Prospects: Bittersweet Recovery. European bank for Reconstruction and Development, November 2021.

42. International Monetary Fund, World Economic Outlook 2021. International Monetary Fund, October 2021, <https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>.

43. World Bank, "2021 Year in Review in 11 Charts: The Inequality Pandemic", 2021, <https://www.worldbank.org/en/news/feature/2021/12/20/year-2021-in-review-the-inequality-pandemic>

As shown Table 2 above, growth in the East Asia and Pacific region is projected to slow to 5.1 percent in 2022. This is due to recurring mobility restrictions, incomplete vaccinations, increasing financial stress, and disruptions from natural disasters⁽⁴⁴⁾. Output in Europe and Central Asia is estimated to have expanded by 5.8 percent in 2021 due to an increase in domestic demand and in firming activity in the euro area, as well as an increase in commodity prices, which lifted export growth and remittance inflows⁽⁴⁵⁾.

Economic conditions in Latin America and the Caribbean improved in the second half of 2021, but growth is projected to slow to 2.6 percent in 2022 and 2.7 percent in 2023 due to a tightening of fiscal and monetary policy, slow reintegration of the labour force, and softening external demand⁽⁴⁶⁾. In the Middle East and North Africa region, growth is forecast to accelerate to 4.4 percent in 2022, due to smaller oil production cuts and increased vaccination, before slowing to 3.4 percent in 2023⁽⁴⁷⁾. However, countries in the region have mixed performances because of differences in the severity and economic effects of the pandemic.

Output in South Asia is projected to expand by 7.6 percent in 2022, increasing from 7.0 percent in the previous year due to increased vaccination and recovery of contact-intensive sectors⁽⁴⁸⁾. However, the projected rate of per capita income to match that of advanced economies has slowed. In Sub-Saharan Africa, growth reached an estimated 3.5 percent in 2021 in commodity prices and a gradual easing of social restrictions⁽⁴⁹⁾.

2- Effect of the pandemic on the MENA economy

The Middle East and North Africa region has been severely impacted by the multiple waves – and variations – of COVID-19 since the beginning of the pandemic. Many communities' livelihoods were impacted by disrupted economic activity, which were compounded by decreasing production and employment rates. It was also a litmus test for the MENA region's overburdened and under-resourced healthcare systems. Patients with COVID-19 in low-income and conflict-affected areas have a harder time finding proper healthcare. According to the United Nations Economic and Social Commission for West Asia, 8.3 million people in the region have slipped into poverty since the pandemic began. In the same line, countries with the largest number of cases per 100,000 population included Bahrain and Kuwait, whereas Tunisia, Lebanon, and Iran had the highest death rates.

Regarding female and youth employment, labour markets in developing and emerging economies were also strongly hit. Those with low-paying and transient jobs, such as youngsters and low-skilled employees, have been disproportionately affected by the pandemic globally. In the region, the trend of young and female unemployment has remained consistent. According to UN reports, women in the MENA region have been disproportionately affected by the pandemic: they have had «more exposure to the virus» since they work in the health sector, are the primary caregivers for their families, and have less access to medical care. Prior to the pandemic, the average rate of female labour force participation in the MENA area was 28 percent, which is much lower than the global average.

44. Ibid

45. World Bank, "Global Economic Prospects 2022". December 2021, <https://www.worldbank.org/en/publication/global-economic-prospects>

46. Ibid

47. Ibid

48. Ibid

49. Ibid

In terms of inflation and poverty, the MENA region's low-income countries are projected to bear the brunt of the cost-of-living increase. In the past, governments in the Middle East and North Africa have used subsidies to alleviate citizens' inflationary pressures - especially on food and energy prices. Subsidies have become a key fiscal stumbling block for many governments across the region. A further increase in subsidies will not be in the policy toolbox of regional governments due to fiscal constraints. Inflation is anticipated to reduce the standard of life in MENA countries and increase the rate of poverty.

Various external circumstances namely low data collecting capacity, lack of transparency, and poor testing and validation lead to imprecise, inconsistent, and limited data collection. Additionally, government acts were restrained due to vaccination availability and the strength of the healthcare system. Nonetheless, governments still put forth different strategies to mitigate the impact of the health crisis. For example, Iran initially denied the existence of COVID-19 outbreaks before instituting an ineffective and time-consuming shutdown. Countries such as the Gulf Cooperation Council (GCC) implemented rigorous quarantine restrictions and severe financial penalties for violating quarantine standards.

As such, the International Monetary Fund's (IMF), World Economic Outlook, released in October 2021, expressed significant optimism for global recovery. However, a number of international organisations (including the IMF) have identified a number of obstacles to the recovery. Year-on-year growth in the region is expected to remain at 4.1 percent in 2021 and 2022, according to the World Economic Outlook, which is higher than both 2019 (1.5 percent) and 2020 (-2.8 percent) estimates. The probability of a rebound from the recession in 2019 and modest growth in 2020 will have good ramifications. However, the region is projected to encounter a number of difficulties in the next years. As a result of these issues, the region's economic conditions will deteriorate⁽⁵⁰⁾.

Overall, the degree to which the MENA economies will recover in 2022 will vary depending on the differences in policy choices. As noted, vaccine access will be a crucial factor to economic recovery. The leadership in wealthier countries with lower reliance of foreign debt - that can also afford to offer stronger fiscal stimulation, high vaccination rate, protection against future shocks (including weather related ones) - will have a better chance to regain public trust and deliver quicker economic recovery in comparison with those in the poorer nations.

Focusing the scope on the impact of Omicron in the same context, and despite the projected growth both globally and on the Mena region level, it should be noted that the viciously spreading variant of COVID-19, Omicron, is expected to slow down the growth of the global economy as well as the recovery of the MENA region. According to Bangkok Post, despite the markedly decelerated global and local growth, the Omicron variant of COVID-19 that is rapidly spreading worldwide could make the situation worse and aggravate labour shortages and supply chain deficiencies. In the latest Global Economic Prospects report, the Washington-based development lender cut its forecast for world economic growth for the year 2022 to 4.1% after the 5.5% rebound last year. The forecasts for growth last year and this year were both 0.2% lower than estimates⁽⁵¹⁾. The economies of the Middle East and North Africa could be

50. Italian Institute for international political studies, Post-Pandemic Economic Recovery in the Mena: Challenges for the Year Ahead, 2021, <https://www.ispionline.it/en/pubblicazione/post-pandemic-economic-recovery-mena-challenges-year-ahead-32419>

51. Bangkok Post, Global growth could slow sharply due to Omicron: World Bank, 2022, <https://www.bangkokpost.com/business/2245859/global-growth-could-slow-sharply-due-to-omicron-world-bank>

among the most vulnerable to the Omicron strain's consequences due to the low vaccination rates. Furthermore, producers may increase oil output more slowly due to the fall in energy prices negatively affecting oil producing countries and this would hinder the economic growth and development⁽⁵²⁾.

3- Effect of the pandemic on economies of focus

The COVID-19 outbreak had taken a toll on the economies of focus for this report. All countries witnessed declines in their GDP growth⁽⁵³⁾. Lebanon, Tunisia, Morocco, and Algeria were among the severely affected economies, where they suffered decline in their GDP growth by 25 percent, 8.8 percent, 7 percent, and 6 percent respectively⁽⁵⁴⁾. However, Morocco and Tunisia were able to modestly recover to reach a GDP of 4.5 percent and 3.8 percent, respectively. Algeria made a partial recovery, reaching 2.9 percent, while Egypt continued its downward trajectory, falling to 2.5 percent in 2021 from a GDP growth rate of 3.6 percent in 2020⁽⁵⁵⁾. While Jordan had a negative GDP growth rate of 2 percent in 2020, it was able to reverse that decline in 2021 as the pre-COVID-19 rate, through implementing vigilant measures to combat the virus⁽⁵⁶⁾. Nevertheless, all six countries had enlarged deficits in 2020. Deficit levels were as high as 26.9 percent in Lebanon⁽⁵⁷⁾, 10.6 percent in Tunisia, 8.9 percent in Jordan, 7.9 percent in Egypt, 7.7 percent in Algeria, and 7.6 percent in Morocco⁽⁵⁸⁾.

As for inflation, the rates did not follow one unified trend in all six countries. For instance, Lebanon, Algeria, and Morocco's inflation rates spiked in 2020 to reach 84.86 percent (from 2.9 percent)⁽⁵⁹⁾, 2.42 percent (from 1.95 percent)⁽⁶⁰⁾, and 0.62 percent (from 0.24 percent)⁽⁶¹⁾, respectively. However, inflation rates in Egypt, Tunisia, and Jordan dropped to 5.7 percent (from 13.88 percent)⁽⁶²⁾, 5.64 percent (from 6.72 percent)⁽⁶³⁾, and 0.4 percent (from 0.68 percent)⁽⁶⁴⁾, respectively.

A rise in unemployment rates globally was one of the repercussions witnessed as the pandemic hit. Jordan's unemployment rate, which marginally increased from 18.3 percent to 19 percent between 2017 and 2019, rose sharply because of the economic shock from the pandemic, reaching 24.7 percent by the end of the year 2020⁽⁶⁵⁾. In Tunisia, the unemployment rate before the pandemic was 14.9 percent, but rose to 17.9 percent by the end of 2021, with youth, women,

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52. Capital economics, Mena and the Omicron risks, 2021, <https://www.capitaleconomics.com/publications/middle-east-north-africa-economics/middle-east-chart-book/mena-and-the-omicron-risks/>
 53. Center for Mediterranean Integration, A Post-Pandemic Growth Strategy for Southern and Eastern Mediterranean Countries, EU Neighbors, 2021, <https://www.cmimarseille.org/knowledge-library/report-post-pandemic-growth-strategy-southern-and-eastern-mediterranean-countries>
 54. Ibid.
 55. Ibid.
 56. Ibid.
 57. Blom Bank Group, "Lebanon's Fiscal Deficit Up by 26.90% YOY to \$1.75B by April 2020", 2020,
 58. Center for Mediterranean Integration, A Post-Pandemic Growth Strategy for Southern and Eastern Mediterranean Countries, EU Neighbors, 2021, <https://www.cmimarseille.org/knowledge-library/report-post-pandemic-growth-strategy-southern-and-eastern-mediterranean-countries>
 59. O'Neill, Aaron. "Lebanon: Inflation rate from 1985 to 2020". Statista, 2021, <https://www.statista.com/statistics/455253/inflation-rate-in-lebanon/#:~:text=This%20statistic%20shows%20the%20average,compared%20to%20the%20previous%20year.>
 60. Ibid
 61. Ibid
 62. O'Neill, Aaron. "Egypt: Inflation rate from 1986 to 2026". Statista, 2021, <https://www.statista.com/statistics/377354/inflation-rate-in-egypt/>
 63. O'Neill, Aaron. "Tunisia: Inflation rate from 1986 to 2026". Statista, 2021, <https://www.statista.com/statistics/524512/inflation-rate-in-tunisia/>
 64. O'Neill, Aaron. "Jordan: Inflation rate from 1986 to 2026". Statista, 2021, <https://www.statista.com/statistics/385594/inflation-rate-in-jordan/>
 65. World Bank, "The world Bank in Jordan", 2021, <https://www.worldbank.org/en/country/jordan/publication/jordan-economic-monitor-fall-2021#:~:text=The%20World%20Bank%20projects%20Jordan,slow%20recovery%20of%20international%20tourism.>

and recent college graduates being the most affected⁽⁶⁶⁾. As for Morocco's unemployment rate, it increased from 9.01 percent in 2019 to 10.15 percent in 2020⁽⁶⁷⁾. Showing a similar trend was Algeria, which experienced a 1.02 percent increase in unemployment, bringing the unemployment rate up to 12.83 percent⁽⁶⁸⁾. On the other hand, while Egypt and Lebanon's unemployment levels have been following a downward trend before the pandemic, they both experienced surges in their unemployment rates reaching 9.6 percent and 6.61 percent, respectively.

Additionally, while the economic downturn mostly harmed tradable sectors, the coronavirus outbreak resulted in the collapse of non-tradable industries such as tourism. Travel restrictions have caused a 60 percent decline in travel revenues in Tunisia⁽⁶⁹⁾ and a 78 percent decline in Morocco⁽⁷⁰⁾. As for Egypt, tourism sectoral losses amounted to one billion US dollars monthly, as 70-80 percent of hotel bookings were cancelled⁽⁷¹⁾. Turning to Jordan, it incurred losses of 35 percent on its travel receipts⁽⁷²⁾, while Lebanon lost 67.8 percent⁽⁷³⁾. On the other hand, Algeria's tourism sector was not affected as much by the pandemic as its counterparts since its tourism revenues are non-negligible in comparison⁽⁷⁴⁾.

The below table summarizes the changes in economic indicators across the six countries of focus in this report.

Economic indicator	Egypt	Lebanon	Jordan	Morocco	Algeria	Tunisia
Change in GDP growth (2021)	↓ 1.1%	--	0	2.5%	3.1%	5%
Fiscal Deficit (2020)	7.9%	26.9%	8.9%	7.6%	7.7%	10.6%
Change in inflation (2020)	↓ 8.18%	↑ 81.96%	↓ 0.28%	↑ 0.38%	↑ 0.47%	↓ 1.08%
Unemployment (2020)	9.6%	6.61%	24.7%	10.15%	12.83%	17.9%
Impact on tourism	↓ 70-80% in hotel bookings	↓ 67.8% In travel revenues	↓ 35% In travel revenues	↓ 78% In travel revenues	Low impact	↓ 60% In travel revenues

Table 3 : Percent changes in economic indicators of the countries of focus

66. International Trade Administration, Country Commercial Guide, 2021, <https://www.trade.gov/country-commercial-guides/tunisia-market-overview>
67. O'Neill, Aaron. "Morocco: Unemployment rate from 1999 to 2020". *Statista*, 2021, <https://www.statista.com/statistics/502794/unemployment-rate-in-morocco/>
68. O'Neill, Aaron. "Algeria: Unemployment rate from 1999 to 2020". *Statista*, 2021, <https://www.statista.com/statistics/811617/youth-unemployment-rate-in-algeria/>
69. The Arab Weekly, "Pandemic has devastating impact on Tunisian tourism", 2020, <https://the arabweekly.com/pandemic-has-devastating-impact-tunisian-tourism>
70. Sassi, Nora. "5 Ways Morocco's Economy is Recovering". *The Borjen Project*, 2021, <https://borgenproject.org/moroccos-economy/>
71. Salem, Islam Elbayoumi et al. *Tourism and Hospitality Research*. Sage Journals, 2021, <https://journals.sagepub.com/doi/full/10.1177/14673584211002614>
72. Raouf, Mariam et al. Impact of COVID-19 on the Jordanian Economy. *IFPRI*, 2020, <https://www.ifpri.org/publication/impact-covid-19-jordanian-economy-economic-sectors-food-systems-and-households>
73. Staff, Hotelier. "Tourism spending in Lebanon dropped by 68 percent in 2020". *ITP Media Group*, 2021, <https://www.hoteliermiddleeast.com/news/122769-tourism-spending-in-lebanon-dropped-by-68-percent-in-2020>
74. Chemseddine, Ahmed et al. The Impact of coronavirus on tourism sector - an analytical study. *Journal of Economics and Management, Munich Personal RePEc Archive*, 2020, <https://mpa.ub.uni-muenchen.de/107784/>

Selected Sectors

The main sectors of focus which are analyzed in this report are agri-business, textile and ICT. Those sectors have been selected due to their recognition as high-potential sectors for women employment. The sectors will be assessed in terms of the challenges that the sectors encountered amid COVID-19 outbreak, how the pandemic altered consumers behavior and the emerging market opportunities for women entrepreneurs.

1- Agri-food

The sector is of strategic importance to the region, as it constitutes around 13 percent of the GDP in Middle East Countries⁽⁷⁵⁾ and is crucial for maintaining the region's food security. Adding to that, agriculture is one of the sectors with high concentration of female employees in the MENA Region⁽⁷⁶⁾.

On the same note, food consumption is largely rising in the MENA region, owing mainly to population growth and the relative improvement in income levels before the COVID-19 pandemic. While COVID-19 has resulted in an upward trend in the consumption of healthy and nutritional meals, restrictions on travel have resulted in farm labour shortages, particularly for high-value crops that could induce a disparity in meeting demand⁽⁷⁷⁾.

The aim of this section is to present an overview of the challenges that agri-food sector encountered post-COVID-19, followed by an analysis of the changes in consumer behavior across the six target countries being studied. Finally, the section presents innovative approaches applied by start-ups that will allow the sector to better cope with COVID-19 repercussions and will open the door for entrepreneurs to capitalize on new business opportunities available in the sector.

Challenges post COVID-19 pandemic

The challenges that the sector encountered due to COVID-19 pandemic restrictions were more or less the same across the globe and across the six countries of focus. The below list summarizes these challenges:

- a) Production capacity was halted due to the inability to access food raw materials and due to restrictions in Labour mobility, which forced food manufacturers to operate below their full capacity. For instance, in Egypt food producers' production capacity was allegedly reduced by 30-40 percent⁽⁷⁸⁾. Also, Jordan's food systems are projected to have witnessed nearly a 40 percent decrease in production. Adding to that, in Morocco, some food industries, namely non-essentials such as the chocolate industry,

75. Chloe Bernadaux, *Agricultural technology in the Middle East: Sowing the seeds of the future*, 2021, <https://www.mei.edu/publications/agricultural-technology-middle-east-sowing-seeds-future>

76. International Maize and Wheat Improvement Center, *Four ways of strengthening gender equality in the agricultural sector in the MENA region*, The Consultative Group for International Agricultural Research, 2020, <https://www.cgiar.org/news-events/news/four-ways-of-strengthening-gender-equality-in-the-agricultural-sector-in-the-mena-region/>

77. Mordor Intelligence, *AGRICULTURE IN MENA - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)*, 2022, <https://www.mordorintelligence.com/industry-reports/agriculture-in-mena-region>

78. UNIDO, *Agri-food and COVID-19 in Egypt: Adaptation, Recovery, and Transformation (Rapid Qualitative Assessment)*, 2020, https://www.unido.org/sites/default/files/files/2020-09/IGGE_Agrifood_and_COVID19.pdf

have been more affected by the pandemic than others. Most industries have however been affected—a joint study by the UNIDO and the AfDB⁷⁹ showed that, in Morocco, the sector lost 20 percent of its workforce⁽⁷⁹⁾. COVID-19 pandemic and a drought-induced 6.1 percent fall in value added within the Moroccan agricultural sector in 2020⁽⁸⁰⁾. Moreover, in 2020, Tunisia's agri-food sector continued to maintain a high level of activity⁽⁸¹⁾, despite somewhat slowing down.

- b) Closure of food outlets like restaurants and hotels restructured food demand as large retailers who were only dealing with these outlets needed to divert to selling directly to consumers. However, this transfer was not an easy process, as some farmers and food manufacturers could not respond rapidly to such changes and they incurred a lot of losses and wastes in their production, due to inability to reach consumers.
- c) With the reduction in people's incomes and with the rise in uncertainty, some consumers started reducing their demand for certain kinds of food. According to the Haut-Commissariat au Plan (HCP), only 30 percent of Moroccan households maintained the same level of expenditure on food consumption during quarantine. Three households out of ten have kept the same level of expenditure for ten food products—namely flour and cereals, vegetables, fruits, pulses, red meats, white meats, fish, milk and dairy products, oils, and sugar⁽⁸²⁾. To add, many Moroccans believed that the changes resulting from the pandemic were here to stay—a recent online survey of 907 Moroccan consumers showed that only 35 percent of consumers expected to return to their pre-pandemic habits⁽⁸³⁾. Lebanon also experienced the same effects especially with its suffering from hyperinflation. After the spread of the pandemic, a survey was conducted to assess the effects of the pandemic on livelihoods, to which people reported that in order to bridge income disparities, one or more livelihood-based coping methods were used, with spending less on food being the most often reported approach. As such, the prime minister of Lebanon stated that the country is on the cusp of a massive food calamity in May 2020⁽⁸⁴⁾. As for Algeria, during quarantine, food consumption for some increased, physical activity decreased, and weight was gained (estimated average weight of 4 kg/adult person)⁽⁸⁵⁾, while others restricted their consumption as purchasing power decreased significantly, such that Algerians face great difficulty obtaining necessities with items such as fruit showing nearly a 100 percent increase⁽⁸⁶⁾.

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- 79. Groupe de la Banque africaine de développement; Organisation internationale du Travail, *Note d'orientation politique: Impact de la Crise covid - 19 sur l'emploi et les TPME au Maroc*, 2021, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_798699.pdf.
 - 80. Haut-Commissariat au Plan, the United Nations, and the World Bank. *NOTE STRATÉGIQUE : IMPACT SOCIAL ET ÉCONOMIQUE DE LA CRISE DU COVID-19 AU MAROC*, 2020, <https://reliefweb.int/report/morocco/impact-social-conomique-de-la-crise-du-covid-19-au-maroc>.
 - 81. Business France, Tunisie : Les secteurs agricole et agro-industriel font preuve de résilience face à la crise économique et sanitaire, 2020, <https://www.businessfrance.fr/tunisie-les-secteurs-agricole-et-agro-industriel-font-preuve-de-resilience-face-a-la-crise-economique-et-sanitaire>.
 - 82. Bank of Africa au Maroc Maroc, Approcher le consommateur, 2021, <https://www.btrade.ma/fr/observer-les-pays/maroc/approcher-consommateur>.
 - 83. Chalabi, Hassan and Hajraoui, Kenza. Impact du confinement du la pandémie du sars-cov-2 sur le comportement d'achat et la fréquentation des points de vente des produits alimentaires au Maroc. Research Gate, 2021, https://www.researchgate.net/publication/349312650_IMPACT_DU_CONFINEMENT_DU_A_LA_PANDEMIE_DU_SARS-COV-2_SUR_LE_COMPOTEMENT_D'ACHAT_ET_LA_FREQUENTATION_DES_POINTS_DE_VENTE_DES_PRODUITS_ALIMENTAIRES_AU_MAROC_THE_IMPACT_OF_THE_LOCKDOWN_DUE_TO_THE_PANDEM.
 - 84. Ibid.
 - 85. Chikhi, Kamel. L'impact De La Crise Sanitaire Du COVID-19 Sur Le Comportement De Consommation des Algériens. Revue D'Etudes en Management et Finance D'Organisation, 2021, <https://revues.imist.ma/index.php/REMFO/article/view/22892>.
 - 86. Le pouvoir d'achat des Algériens lourdement impacté. Al Watan, 2021, <https://www.elwatan.com/edition/actualite/le-pouvoir-dachat-des-algeriens-lourdement-impacte-03-10-2021>.

Consumer behaviour post COVID-19 pandemic

The new normal imposed by COVID-19 pandemic influenced consumers to change their behaviour when it comes to food consumption habits. The main behavioural patterns that were depicted post COVID-19 are:

- a) Globally, amid the pandemic outbreak consumers started paying more attention to how their food choices may affect their health. Hence, their preferences shifted towards consuming healthier, nutritious and immunity boosting food. Moreover, consumer's fears of virus transmission encouraged them to consume more locally produced goods. This is pertained to the fact that consumers are becoming more attentive to the source of their food. Therefore, demand for local food experienced a surge because local value chains are perceived as being transparent, short, and fair⁽⁸⁷⁾. In addition, there was an observed increase in the usage of e-grocery and applications for online delivery.
- b) Consumers in the MENA region also followed to a great extent the same pattern of consumption. For instance, 88 percent of consumers showed readiness to pay relatively higher values for healthier food alternatives⁽⁸⁸⁾. Moreover, in a study conducted with 5000 consumers in Morocco, Algeria, Tunisia, Egypt, Saudi Arabia and United Arab Emirates, 54 percent of respondents reflected a healthier shift in their diets, where now they tend to consume more fresh fruits and vegetables⁽⁸⁹⁾. In Egypt, for instance, demand for packaged and frozen food declined, while the consumption of fresh foods and beverages was on the rise- a recent consumer survey conducted showed that 58 percent of the consumers have become more health conscious after the pandemic, while 46 percent said to have started eating more balanced meals, with males and females constituting 48 percent and 44 percent respectively⁽⁹⁰⁾. The same pattern was observed in Jordan with consumers decreasing the portions they ate, and opting for packed food with high nutritional values, while placing greater attention to packaging and delivery that is adhering to COVID-19's hygienic protective policies⁽⁹¹⁾. Following the same line, another study conducted in Morocco with 340 consumers showed that 27 percent of respondents increased their purchases of local products, while around 20 percent of respondents stated that shopping for their groceries online increased⁽⁹²⁾.
- c) Adding to that, the rise in health consciousness increased awareness regarding health benefits of organic food consumption. According to a survey carried out with 1244 consumers in Morocco, Algeria and Tunisia, 99.7 percent believed that organic food products boost immunity and improve the body's capabilities to fight diseases⁽⁹³⁾ despite only 6.1 percent of respondents in the three countries having the capability to consume organic products daily⁽⁹⁴⁾. Moreover, a survey by the Tunisian National Institute of Statistics revealed that part of the

87. Ghali-Zinoubi, Z. (2021). Local food consumption during the covid-19 pandemic. Italian Journal of Food Science, 33(4), 21-32, <https://www.itjfs.com/index.php/iifs/article/view/2079/727>

88. ArabAD, Post-COVID Consumer Trends: Accelerating Growth, 2021, <https://www.arabadonline.com/en/details/digital/Post-COVID-Consumer-Trends-Accelerating-Growth>

89. IPSOS, 5 Ways Covid 19 Has Impacted MENA's Food Habits, 2020, <https://www.ipsos.com/en-sa/5-ways-covid-19-has-impacted-menas-food-habits>

90. IPSOS, Food Trends 2020: The Changing Food Habits & Attitudes of Egyptian Consumers During the Pandemic. 2020, https://www.ipsos.com/sites/default/files/ct/news/documents/2020-12/food_trends_2020_-_egypt.pdf

91. IDI.

92. El Bilali, H., Ben Hassen, T., Baya Chatti, C., Abouabdillah, A., & Alaoui, S. B. Exploring household food dynamics during the COVID-19 pandemic in Morocco. Frontiers in Nutrition, 699, 2021, <https://www.frontiersin.org/articles/10.3389/fnut.2021.724803/full>

93. Khadda, Z. B., Ezrari, S., Radouane, N., Boutagayout, A., El Housni, Z., Lahmamsi, H., ... & Guiné, R. P. Organic food consumption and eating habit in Morocco, Algeria, and Tunisia during the COVID-19 pandemic lockdown. Open Agriculture, 7(1), 21-29, 2022, <https://www.degruyter.com/document/doi/10.1515/opag-2022-0064/html?lang=en>

94. Ibid.

population has changed its eating habits by reducing the quantities consumed or eating foods that are not normally appreciated. In Lebanon, population have started exhibiting increased awareness levels which reflected in their purchase of food with high nutritional values and following healthier trends. This has been further highlighted from field experts as follows:

“People in Lebanon’s investment in sports rose, as well as their interest in various diets; keto being one of them”. - IDI with a Lebanese key expert in the agri-food sector

- d) It has been also highlighted that a growing consumer market have been willing to compromise the shelf life of the product in exchange for more environmentally friendly products, placing additional pressure on manufacturers to be more sustainable. Furthermore, “Food shopping, preparation and consumption practices in times of COVID-19: case of Lebanon”, which is another study conducted in Lebanon with 201 Lebanese consumers surveyed, showed that 57.2 percent of respondents significantly reduced their consumption of unhealthy food. Additionally, 51.8 percent increased their purchases of local products. The survey also indicated that Lebanese consumers are becoming more aware regarding the food they waste, where 86 percent of respondents stated that their food waste decreased since the COVID-19 outbreak⁽⁹⁵⁾.

Emerging market trends and opportunities

The challenges imposed by the COVID-19 outbreak, alongside the change in consumption preferences and behavior, created new market trends and opened the doors for new business opportunities. Globally, the pandemic brought to light the need for root changes in the functioning of agri-food systems in response to the increasing demand for nutritional food, hygienic packaging standards, sustainability, and traceability of products. Adding to that, the fragilities in food supply chain that COVID-19 exposed had further emphasized the need for digitalization of logistics and operational process⁽⁹⁶⁾. The figure below summarizes the new global trends and the changes needed in agri-food value chains.

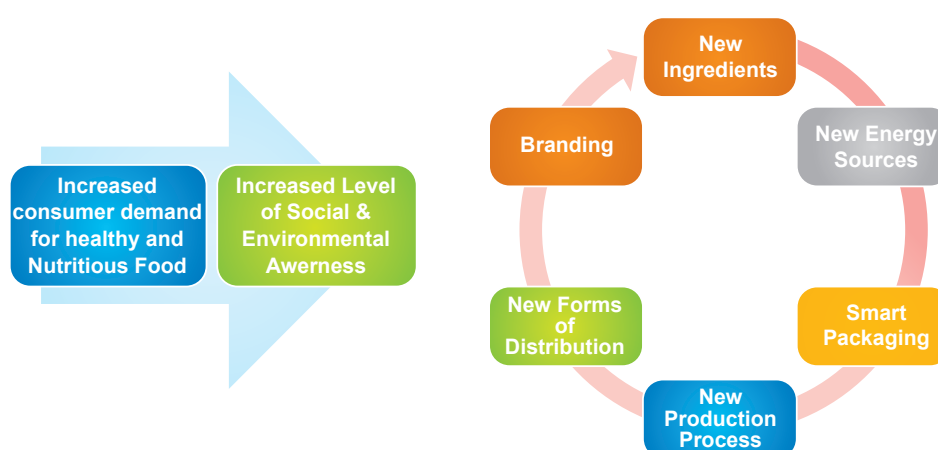


Figure 5 : Global Food Trends⁽⁹⁷⁾

95. Hassen, T. B., El Bilali, H., Allahyari, M. S., & Charbel, L.. Food shopping, preparation and consumption practices in times of COVID-19: case of Lebanon. Journal of Agribusiness in Developing and Emerging Economies, 2021, <https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-1280195>

96. Resilience, A, Production Transformation Policy Review of the Dominican Republic, OECD, 2020, <https://www.oecd.org/dev/production-transformation-policy-review-of-the-dominican-republic-1201cfea-en.htm>

97. OECD, Covid-19 and the global food systems, 2020, <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-global-food-systems-aeb1434b/>

Based on the above regional consumption behavior analysis, it can be inferred that the global agri-food trends will be affecting regional agri-food systems as well. This will require high levels of product and process innovations by entrepreneurs in order to enhance the efficiency and competitiveness of the sector in each of the six target countries. Hence, this section will focus on presenting some of the best practices in the region that may successfully serve the new emerging market trends. Changes in consumption behavior can be categorized into three main categories namely:

- Increase in consumption of healthy food
- Increase in online shopping for delivery
- Innovation in the process of agri-food production

1) Consumption of healthy food:

a) Organic Food:

The rise in health consciousness among consumers and the focus that is now directed towards consumption of healthy food with high nutritional values has opened the door for expansion of organic food markets in the countries being studied. However, the expansion of such market is conditional on the availability and affordability of local organic products, since usually consumers do not incorporate organic food products in their diets, as they are relatively more expensive than other food products⁽⁹⁸⁾.

In that line, and according to Daily News Egypt, only 12 percent of Egypt's agricultural wastes are recycled, leaving a large untapped potential in this area⁽⁹⁹⁾.



Picture 1 : Baramoda logo and company overview

One of the initiatives in Egypt “**Baramoda**”, tried to capitalize on such potential and the prevailing market gap through the conversion of agricultural wastes into organic fertilizers for different soils and crops. The fertilizer is produced using biotechnology, where the company was able to recycle 9188 tons of agricultural wastes into 5500 tons of organic fertilizers. The aim of the initiative was to provide an innovative solution for efficient waste management, to reduce production costs and to minimize the usage of chemical fertilizers.

98. Company website: <https://baramoda.org/>

99. Daily News Egypt, Baramoda: startup recycles agricultural waste to produce fertilizers, 2019, <https://dailynewsegypt.com/2019/11/05/baramoda-startup-recycles-agricultural-waste-to-produce-fertilizers/>

Another Egyptian startup called **“Chitosan Egypt”** uses shrimp extracts to produce organic pesticides and fungicides.



Picture 2 : Chitosan Egypt source: company website

“Biomass Sal”⁽¹⁰⁰⁾ in Lebanon also focuses on producing organic food and they collaborate with certified organic farmers all over Lebanon to offer a diversified range of organic food products to health-conscious consumers. The company relies on the usage of drip irrigation, permaculture and renewable energy in its agricultural practices promoting agricultural sustainability and self-sufficiency. This is highly needed in the MENA region, especially after the pandemic highlighted the food security risks that were intensified in the region due to supply chain disruptions emerging from the lockdowns and the trade restrictions during the pandemic. Hence, it is of outmost importance for the region to try to find innovative ways to ensure the sustainability of their food production. **“Baramoda”, “Chitosan Egypt”, “Biomass Sal”** were among the winners in MENA Regional Innovation Hub in 2021⁽¹⁰¹⁾.



Picture 3 : Biomass Sal source: company website⁽¹⁰²⁾

100. Company website: <https://www.biomasslb.com/>

101. Company website: <https://chitosaneg.com/>

102. Company website: <https://www.biomasslb.com/>

b) Healthier Food Alternatives:

Consumers started looking for healthier alternatives for some of the daily consumed products.

For instance, the Egyptian market for yogurt witnessed a surge in the demand for Greek yogurt, as it is believed that it has a higher protein value than regular yogurt.

Adding to that, consumers started searching for alternatives for cow milks even before the pandemic for various reasons. First, those suffering from lactose intolerance tend to consume plant-based milk to avoid any reactions and irritations that cow milk may cause. Second, some consumers in the region started recognizing health risks that are associated with cow milk, such as heart diseases due to saturated fats in the milk.

Therefore, some producers in the region realised this market gap and started producing cow milk alternatives. For example, Sahara Farms in Tunisia produces camel milk. Camel milk can have various health benefits. It contains A2 milk, which aids in maintaining normal levels of blood pressure. Moreover, it is more beneficial for diabetics, as it contains higher levels of insulin like proteins than cow milk. Finally, it is more tolerable for lactose intolerant patients, as it does not contain one of the main compounds that causes allergy⁽¹⁰³⁾.

Following the same line, “**Hajjar Foods SAL**”⁽¹⁰⁴⁾ in Lebanon specializes in producing goat milk, as an alternative for cow milk. The idea was derived from the disruptions that happened to imported products in Lebanon due to the currency depreciation that was intensified starting from 2019. Since, 90 percent of cow feed is imported, the startup resorted to goats for milk production⁽¹⁰⁵⁾. Goat's milk contains less lactose than cow's milk and therefore is easier to digest for those suffering from lactose intolerance⁽¹⁰⁶⁾.



Picture 4 : Hajjar Sal⁽¹⁰⁷⁾

103. Aadvik Foods, CAMEL MILK Vs COW MILK, 2020, <https://aadvikfoods.com/blog/camel-milk-vs-cow-milk/>

104. Water and Energy for Food (2021). Hajjar Foods SAL (Go Baladi) PROVIDING NUTRITION AND FOOD THROUGH GOAT DIARY, 2021, [https://we4f.org/innovators/hajjar-foods-sal-go-baladi#:~:text=Hajjar%20Foods%20SAL%20\(Go%20Baladi\)'s%20innovation%20focuses%20on,the%20Lebanese%20mountains%20to%20consumers](https://we4f.org/innovators/hajjar-foods-sal-go-baladi#:~:text=Hajjar%20Foods%20SAL%20(Go%20Baladi)'s%20innovation%20focuses%20on,the%20Lebanese%20mountains%20to%20consumers)

105. Ibid

106. Iowa Dairy Goat Association, Benefits of Goat Milk vs Cow Milk, 2017, <https://www.iowadairygoat.org/benefits-of-goat-milk-vs-cow-milk/#:~:text=To%20conclude%2C%20we%20have%20seen,thermodynamically%20superior%20to%20cow's%20milk.>

107. Water and Energy for Food (2021). Hajjar Foods SAL (Go Baladi) PROVIDING NUTRITION AND FOOD THROUGH GOAT DIARY, 2021, [https://we4f.org/innovators/hajjar-foods-sal-go-baladi#:~:text=Hajjar%20Foods%20SAL%20\(Go%20Baladi\)'s%20innovation%20focuses%20on,the%20Lebanese%20mountains%20to%20consumers](https://we4f.org/innovators/hajjar-foods-sal-go-baladi#:~:text=Hajjar%20Foods%20SAL%20(Go%20Baladi)'s%20innovation%20focuses%20on,the%20Lebanese%20mountains%20to%20consumers)

Producers of dairy products in Egypt perceived the demand for plant-based milk as an opportunity to penetrate the market with new product line and to compete with international brands that were monopolizing the market through offering milk at more affordable prices.

It should be noted that according to **Eit Food** – i.e., Europe's leading food innovation initiative, one of the top consumer trends in 2021 in Europe was the increase in demand for plant-based food⁽¹⁰⁸⁾. This highlights an opportunity for target countries to penetrate the market for plant-based food not only on the regional level, but also on the global level, since most food exports from target countries are targeted to European markets.

c) Other Identified Market Opportunities:

Building on the imports and exports analysis of agri-food products in the six countries, in addition to primary insights gathered from country sector experts on the shifts in consumption behavior post the pandemic, other domestic and international market opportunities across the six countries were identified. In Algeria, for example, demand for some food products, namely semolina, canned food, sugar, oil, coffee, and dried vegetables, increased by 40 percent⁽¹⁰⁹⁾, indicating new market opportunities. In addition, the change in consumption habits post the pandemic towards more healthy consumption created new market opportunities in Egypt. For instance, processors have cited an increase in people's consumption of onions and garlic after the pandemic, aligning with people's rising interest in food items which are high in nutritional value to increase immunity. Moreover, emphasis was placed on the need for proper packaging of food items to guarantee a certain hygiene level and to become more appealing for a larger base of consumers. High-potential opportunities identified for Egypt's agri-food sector includes:

- Healthy snacks alternatives, such as oat-based snacks and dried fruit snacks
- Quick readymade meals such as packaged Koshary which was able to locate itself well in both the local and global markets
- Fruit extracts such as using pomegranate extracts for medicinal purposes

In Lebanon, wine, olive oil, dried fruits and nuts, chocolate, and spices are the main subsectors with market opportunities⁽¹¹⁰⁾. Moreover, Christians fasting found a great alternative in gluten-free food products, same as people with gluten intolerance. Accordingly, gluten-free food products are currently garnering more popularity as they serve these two segments along with people generally interested in following a healthy lifestyle. Among these popular food products are banana breads and apple chips. Moreover, the shift in consumption behavior towards more nutritious food had led to the market growth of Lebanese protein bars. Adding to that, to combat the rising prices of animal feed, Lebanese people have begun to consider producing it locally.

108. EIT Food, The top 5 trends for the agrifood industry in 2021, 2021, <https://www.eitfood.eu/blog/post/the-top-5-trends-for-the-agrifood-industry-in-2021>

109. Chikhi, Kamel. Consumption Behavior of Algerians During the Period of the Covid-19 Pandemic Crisis. Markets, Globalization & Development Review: Vol. 5: No. 4, Article 4. International Society of Markets and Development, 2020, <https://digitalcommons.uri.edu/mgdr/vol5/iss4/4/>

110. Agri-food, IDAL, 2020, https://investinlebanon.gov.lb/en/sectors_in_focus/agri-food#:~:text=KEY%20FACTS%20AND%20FIGURES%3A,the%202010%20and%202018%20period

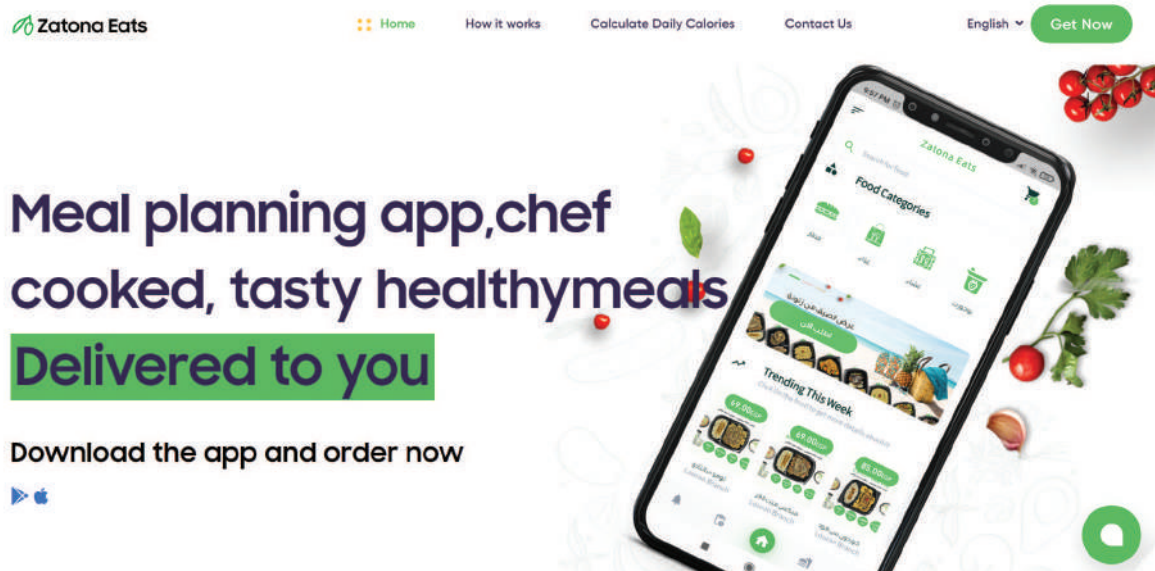
Similarly, organic produce and products are gaining high popularity in Tunisia. The main identified local potential market opportunities include:

- Production of dates' byproducts, including dates syrup/molasses and date sugar
- Production of carob's byproducts, including carob syrup/molasses, carob sugar, in addition to its use as a biological food additive
- Differentiated harissa products
- Sun-dried tomatoes
- Locally-made chips
- Organic jam
- Readily packaged spices
- Differentiated "bsisa" products
- Energy foods such as peanut butter and oats

2) E-grocery

On another note, with the removal of COVID-19 restrictions in most of the countries and with people returning to work, people may start seeking convenient ways to maintain the healthy lifestyle that they developed during lockdown. Thus, the provision of food services that offer customized nutritional, healthy and ready to eat meals may start to gain popularity across the region.

For example, **"Zatona Eats"** ⁽¹¹¹⁾ in Egypt is an application that offers meal planning services and delivers cooked healthy meals to their customers.

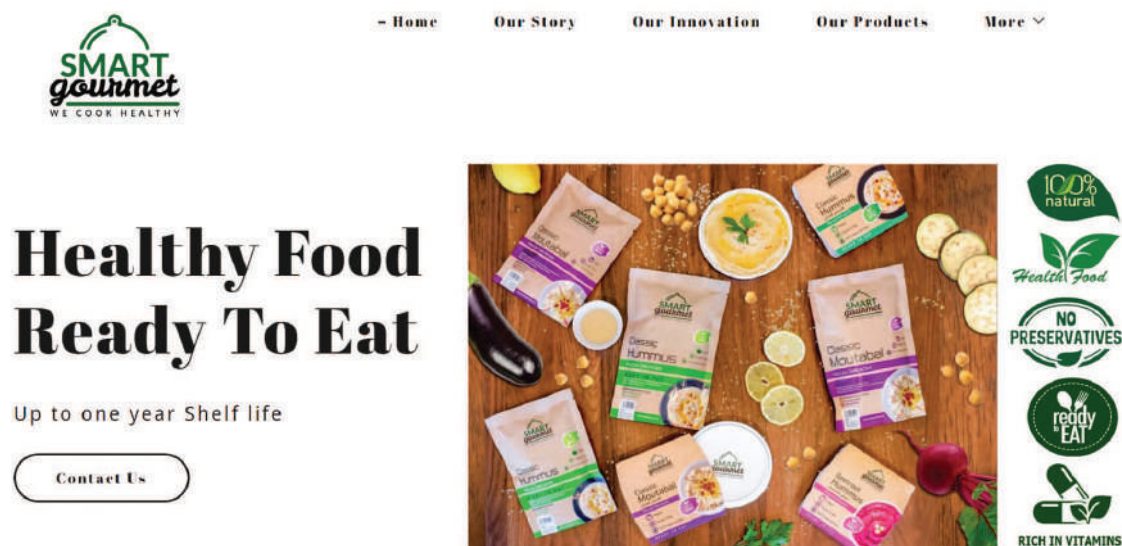


Picture 5 : Zatouna eats application for meal planning services

source: company website

111. Company website: <https://zatonaeats.com/en>

In Lebanon, “**Smart Gourmet**”⁽¹¹²⁾ is a ready-to-eat food concept using the sous-vide technique to cook traditional authentic food with zero preservatives resulting in a longer shelf-life.



Picture 6 : Smart gourmet application source: company website

This opportunity is considered the ultimate business opportunity for women in terms of convenience, as it could be done at home. This is in addition to the home-made food small businesses that started to boom lately, particularly as a large percentage of the working force is comprised of women, whose time is often constrained as they juggle their personal and professional lives, as well as their household obligations.

Furthermore, lockdown restrictions encouraged people to carry a lot of their activities online, including shopping for grocery and food as it was more convenient and safer than physically going to stores. According to Wamda, there are three main types of e-grocery namely, Market Place, Pure Play, and Omni Chanel⁽¹¹³⁾. Market Place refers to a platform that offers delivery of groceries through establishing partnerships with local retailers. Pure Play refers to an online platform for selling groceries that has full control of most aspects of the value chain. Omni Chanel refers to offline supermarkets that offer online delivery services⁽¹¹⁴⁾. The three types of e-grocery are available widely across the MENA region and the demand for them surged amid COVID-19 outbreak.

For example, Algeria showed an increase in the usage of business to consumer (B2C) e-commerce in 2020 and this was reflected by five points increase in UNCTAD E-commerce Index⁽¹¹⁵⁾. This highlights an opportunity for producers and sellers in Algeria to digitalize their selling process through using online platforms. For instance, “**Food Beeper**”⁽¹¹⁶⁾ and **Fast Delivery**” are e-commerce websites that deliver food ordered from their partner restaurants

112. Company website: <https://smartgourmet.com/>

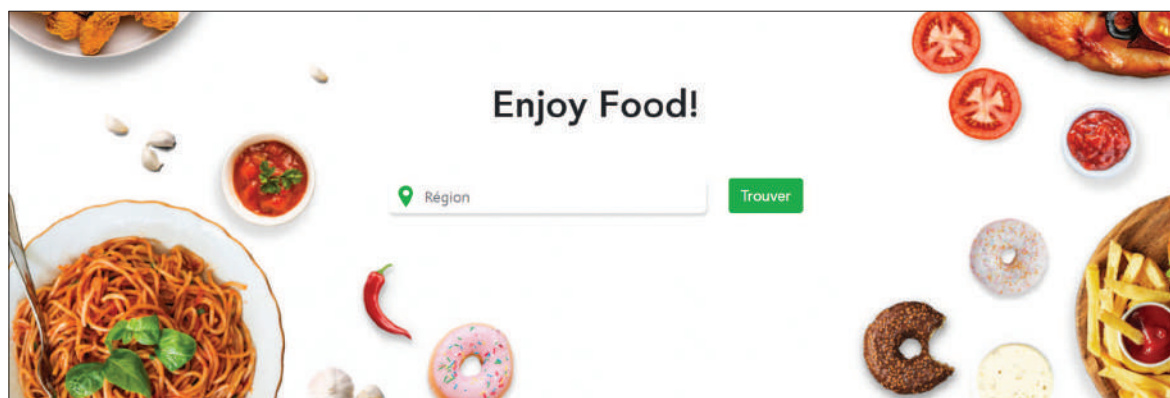
113. Wamda, The e-grocery map of Mena, 2022, <https://www.wamda.com/2020/04/e-grocery-map-mena>

114. Ibid.

115. UNCTAD, The UNCTAD B2C E-commerce Index 2020, 2020, <https://unctad.org/news/switzerland-climbs-top-global-e-commerce-index>

116. Company website: <https://www.foodbeeper.com/>

to consumers' doorsteps while **"Jumia food"**⁽¹¹⁷⁾ facilitates ordering of groceries online⁽¹¹⁸⁾. According to UNDP, Algeria is a country that relies on cash in majority of its transactions. Therefore, for online delivery services and online marketplaces to function properly in the Algerian market, cash upon delivery had to be used and not just e-payments⁽¹¹⁹⁾.



Picture 7 : Food beepers website⁽¹²⁰⁾



Picture 8 : Jumia food source: company website⁽¹²¹⁾

Adding to that, in Egypt, 54 percent of consumers started shopping more for groceries online according to a study conducted by MasterCard⁽¹²²⁾. Egypt has a lot of supermarket chains and applications that offer online services for grocery shopping.

117. Company website: <https://food.jumia.dz/>

118. Briter Bridges, Ecosystems Maps, 2019, <https://briterbridges.com/ecosystem-maps>

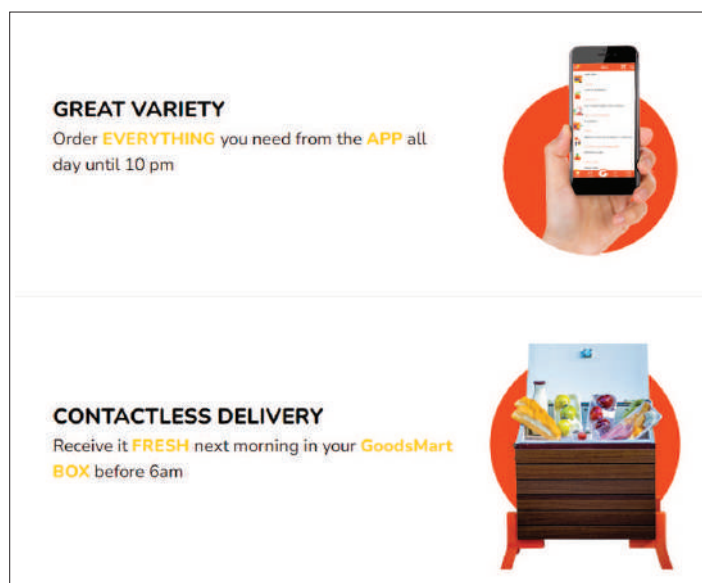
119. UNDP, Traditional and modern ways to approach COVID-19 in Algeria, 2020, <https://www.undp.org/blog/traditional-and-modern-ways-approach-covid-19-algeria>

120. Company website: <https://www.foodbeeper.com/>

121. Company website: <https://food.jumia.dz/>

122. MasterCard, 72% of Egyptian Consumers are Shopping More Online since the Start of Pandemic, Reveals Mastercard Study, 2020 <https://newsroom.mastercard.com/mea/press-releases/72-of-egyptian-consumers-are-shopping-more-online-since-the-start-of-pandemic-reveals-mastercard-study/>

For instance, **“Goods-Mart”**⁽¹²³⁾ is an online platform that delivers groceries to consumers through installing a box at each consumer address and they deliver orders without any direct interaction with consumers. This idea was created before the pandemic, however with lockdown restrictions and social distancing, consumers’ usage of such service increased. Goods-Mart witnessed a triple increase in the number of its orders amid COVID-19 outbreak⁽¹²⁴⁾.



Picture 9 : Goods Mart source: company website⁽¹²⁵⁾

Furthermore, **“Breakfast”**⁽¹²⁶⁾ was one of e-grocery apps that gained a lot of popularity during COVID-19 and is still booming until now. Breakfast offers a wide variety of groceries and bakeries that can be delivered to consumers’ doorsteps; the app also has a section, where consumers can write notes for deliveries like “requesting leaving orders at the doorstep” as to eliminate physical contact. Orders can be paid using credit cards or cash on delivery (COD)⁽¹²⁷⁾. The app has an option to customize delivery times, which increases the convenience of using the service.



Picture 10 : Goods Mart source: company website⁽¹²⁵⁾

123. Company website: <https://goodsmartegypt.com/portal>

124. Oxford Business Group, How retailers in Egypt are meeting e-commerce demand, 2020, <https://oxfordbusinessgroup.com/overview/growing-options-e-commerce-expands-customers-turn-online-retail-platforms-more-their-shopping-needs>

125. Company website: <https://goodsmartegypt.com/portal>

126. Company website: <https://www.breakfast.com/>

127. Daily News Egypt, Creative solutions from startups in Egypt to cope with COVID-19, 2020, <https://dailynewsegypt.com/2020/03/25/creative-solutions-from-startups-in-egypt-to-cope-with-covid-19/>

“**Rabbit**”⁽¹²⁸⁾ is also a newly funded delivery app in Egypt, delivering groceries in less than 20 minutes - currently operating only in Cairo.



Picture 11 : Rabbit source: company website⁽¹²¹⁾

Other examples to such platforms include *Instashop*, *Tooters*, *Basket*, *My Market*, *Glovo*, *Intigo*, *Founa*, *Farm Trust* and *Fresh Source*.⁽¹²⁹⁾

“**Instashop**” is operating in Egypt and Lebanon. It is a marketplace that partners with local supermarkets and retailers to deliver groceries to consumers. “**Tooters**” is also a marketplace for groceries operating in Lebanon. In Jordan, for instance “**Basket**” is a marketplace that enables consumers to order groceries from local stores. The app also offers an option for a personal shopper, where s/he will pick your items carefully and you can call or chat as they shop. Basket’s CEO stated that, during the COVID-19 pandemic, there was a huge surge in number of orders by eight times⁽¹³⁰⁾. Very similar ideas for e-groceries exist in Tunisia and Morocco. Several marketplaces are operating in Morocco (“**My Market**” and “**Glovo**”) and Tunisia (“**Intigo**” and “**Founa**”). “**Farm Trust**” is a Tunisian e-commerce start-up that focuses on delivering organic products directly from organic farming to their clients to ensure the quality and safety of the products .

In the same line, “**Fresh Source**” is restructuring the Egyptian horticulture agri-chain through the provision of innovative solutions that are aimed at integrating small-time farmers into the modern



Picture 12 : Fresh Source. source: company website

128. Company website: <https://www.rabbitmart.com/>

129. Ibid.

130. MENA Bytes, Covid-19: Grocery startups in MENA witness big surge in online orders as people stay indoors due to Coronavirus, 2020, <https://www.menabytes.com/grocery-startups-mena-covid-19/>

value chain. **“Fresh Source”** is the region's first business to business (B2B) agri-supply chain platform in the MENA region. It is a women led innovation that aspires to create more sustainable fresh food systems through being fair and offering the freshest produce with a fair price. It takes the value chain approach to improve the economic and environmental efficiency of the food supply chain in Egypt. **“Fresh Source”** aims to leverage technology and data, to decrease the percentage of food loss in Egypt, which is currently an all-time high nearly 45 percent due to improper handling and storage techniques⁽¹³²⁾.

3) Process Innovation

The challenges that the sector encountered during the COVID-19 pandemic exposed fragilities in food systems globally and on the regional level. For example, the pandemic showed the rigidity in the food supply chain, which crippled farmers and food manufacturers who were mainly dealing with food outlets to divert and to sell directly to consumers. This left such farmers and food producers with large quantities of perishable goods and magnified their losses during this period. Adding to that, with mobility restrictions across the target countries and with the disruption in global trade, many raw materials could not be obtained interrupting the production process and reducing the production capacity.

Hence, innovations and digitalization of the supply chain is becoming a must to prevent any future disruptions in food value chains that may arise due to climate change or any other unforeseen events. One of the ways that are driving the transformation process in the sector is AgriTech startups through investing in multiple aspects in the sector.

One of the currently leading solutions in the sector is contract farming. Contract farming is defined as forwarding agreements specifying the obligations of farmers and buyers as partners in business. Legally, farming contracts entail the farmers' (suppliers) obligation to supply the volumes and qualities as specified and the processors' / traders' (buyers) obligation to offtake the goods and realize payments as agreed. Furthermore, the buyers typically provide embedded services such as:

- Upfront delivery of inputs (e.g., seeds, fertilizers, plant protection products)
- Pre-financing of input delivery on credit (explicit rates not always charged; see insert)
- Other non-financial services (e.g., extension, training, transport, and logistics)
- The form and the process of concluding contract farming are quite variable, for example:
 - Agreements may be established informally or formally, in verbal or written form.
 - Contracts may be concluded with individual farmers or farmer's groups.
 - Description of obligations may remain quite vague or be reasonably specific.
 - Contracts may be renewed each season or cover long-term agreements.
 - Specifications may be based on case-by-case negotiations or a sub-sector code of practice

131. 1001 Tunisie, Farm Trust, two young people in the assault of the trade of organic products, 2018, <https://1001tunisie.com/recipes-and-local-products/farm-trust-two-young-people-in-the-assault-of-the-trade-of-organic-products/>

132. Company website: <https://freshsourceglobal.com/#>

It should be noted however that the targeted countries have different stances when it comes to the extent of contract farming. For instance, some having established a regulatory framework to support it, such as Egypt, Morocco, and Lebanon: Nonetheless, despite them all being limited in scope, they remain effective, and mostly stimulated by private initiators. As for Tunisia and Algeria: development initiatives like IFAD, FAO, etc are working on ongoing interventions, so it can be inferred that target countries are currently working on promoting the idea.

Furthermore, AgriTech startups also focus on the provision of capacity building to farmers in order to enhance their knowledge regarding efficient use of agricultural inputs and how to grow crops that meet international standards. Finally, AgriTech start-ups also started focusing on investing in technological solutions that work on increasing the efficiency of water usage and of monitoring weather conditions in order to maintain sustainability of agricultural production especially in face of current water shortages and climate change.

Below are examples to some of the best practices of start-ups across the six target countries. Technological solutions for farmers and producers

In Egypt, “**Mozare3**”⁽¹³⁴⁾ is an Agri-fintech startup that launched in 2021, aiming to digitalize the agricultural sector in Egypt and to provide support to unbanked smallholder farmers. Low levels of trust and power imbalances between suppliers and buyers, bad road and market infrastructure, continuous fluctuations in prices, uneven produce quality, and a lack of reliable harvest forecasts, market information systems and financial resources hinder the integration of smallholder farmers. Therefore, Mozare3 focuses on developing multiple solutions of products, applications and financial services that serve all beneficiaries in the agricultural sector.



Picture 13 : Mozare3 source: company website ⁽¹³³⁾

First, the founders capitalized on the sharp rise in the use of mobile payments amid COVID-19 outbreak and thought of developing a one stop shop for farmers who need access to banking services. Through this shop, farmers will be able to digitally perform their financial transactions namely, bills payments, money transfers and good and services purchases. Adding to that, the startup addressed the rooted challenge of limited access of smallholder farmers to loans due to the inability of farmers to secure assets required for loan collateral. Thus, it developed unconventional financial products which allow farmers to acquire agricultural supplies such as pesticides and fertilizers from suppliers and to repay its cost from the yield they obtain once their crops are sold or exported through installments⁽¹³⁵⁾.

133. Company website: <https://www.mozare3.net/>

134. Ibid

135. Wamda (2022). Mozare3: Enabling small farmers in Egypt to become bankable. [Mozare3: Enabling small farmers in Egypt to become bankable - Wamda](#)

Second, the startup started working on addressing the aforementioned structural challenges encountered by smallholder farmers through the usage of contract farming between farmers and food manufacturers. The company procures raw materials and fresh food directly from farmers, processes them into food and sells them in Egypt and international markets. This ensures farmers accessibility to a secure source of income allowing them to plan ahead and to expand their farming activities. Adding to that, this process ensures that farmers grow a high-quality product that conforms to international standards⁽¹³⁶⁾. Mozare3 also provides capacity building trainings for contracted farmers in order to optimize inputs leading to less chemical consumption per acre, thus protecting the environment and reducing pollution. It also provides better logistics and data processing using technology to simplify operations and manage the value chain in order to classify products, transport efficiently and reduce losses during distribution⁽¹³⁷⁾.

Such initiative will help in reducing agricultural wastes across the value chain, as it directly connects farmers with food processors. Moreover, through the support to farmers, the quality of agricultural product is ensured, and efficiency is promoted, which will lead to enhancement of agricultural sustainability and competitiveness of the sector locally and on the level of international markets.



Picture 14 : Mozare3 source: company website⁽¹³⁸⁾

136. Ibid.

137. Mozare3, The leading agricultural financial technology company in Egypt 2022, <https://www.wamda.com/2022/01/mozare3-enabling-small-farmers-egypt-bankable>

138. Company website: <https://www.mozare3.net/>

“Zr3i” is also another AgriTech startup in Egypt offering technological solutions to problems encountered by farmers in the sector. Its main objective is to provide detailed reports to the farmer regarding soil data (land analyses) and vegetation cover indicators. This plays a very important role in improving the cultivation process, raising land productivity, and inevitably the income level of farmers, which allows the farmer or farm owner to have a comprehensive control of all what is going on inside his/her farm of different and multiple operations and setting expectations about the expected level of production in the coming period, as well as the expected profit rate⁽¹³⁹⁾.



Picture 15 : Zr3i startup source: company website ⁽¹³³⁾

The services that the start-up provides are shown in the table below ⁽¹⁴⁰⁾.

Service	Description
Monitoring Level of Agricultural Water	- Early detection of water stress is one of the very important processes due to its ability to reduce the negative effects on crops and also helps to control irrigation operations and improve agriculture significantly. - This service sends a report on the level of plant water via satellite every 5-10 days.
Satellite-based crop health monitoring	- The farmers determine their field on the map, determine the part in which the crop growth is abnormal, and determine if the problem has already started or not. - That, and if the problem has already started, then the farmers give a simplified explanation of the problem through the farm identification system, and the application will start sending the proposed solutions first-hand and follow the growth. - The system also provides two different sets of images, the first group provides one set of images, the health status of crops if your crop is in the early stage of growth, the second set of images provides the health status of crops if your crop is in the later stage of growth.

139. Zr3i, 2022, <https://zr3i.com/services#>.

140. Ibid

Monitoring the use of chemicals	Zr3i presents various suggestions about Chemicals used according to the degree of their use, their percentage, the required quantity and the type of soil to reduce crop damage at a high rate and reduce the spread of diseases.
Weather monitoring	Zr3i works on communicating with the nearest weather station and sends alerts, detailed reports and prediction models about the climate through the application to take the necessary precautions and measures in order to reduce the incidence of damage to the crops.
Soil analysis and element identification	Zr3i analyses the soil and informs farmers periodically through the application of its requirements. It also works to determine the nutrients and chemical elements available in the plant and not available and determine the type of crop compatible and suitable for the soil..
Ecosystem control	- Zr3i controls the ecosystem associated with your agricultural area, through the management and monitoring of multiple farms. - It also offers recommendations for the necessary and appropriate inputs and prediction of the maturity level of the crop according to its type, after reviewing the sponsoring chain and using the information to improve productivity and reduce waste to ensure increased profitability..

Table 3 : Services Provided by Zr3i

Similarly, in Lebanon, **“Food Sight”** is an online platform that provides consultation related to food production, standardization, regulation, and compliance. It works on enhancing the production quality of domestic food producers through creating linkage between manufacturers and experts in the field in order to strengthen their knowledge regarding export requirements, food safety and quality standards⁽¹⁴¹⁾.



Picture 16 : FoodSight source: company website

141. Berytech, Meet The Lebanese Agripreneur Of The Year 2020, 2020, <https://food-sight.com/>.

“Decapolis” is a start-up in Jordan that focuses on improving food safety and quality assurance process. It works on building capacity of smallholder farmers through training them on agriculture best practices like the proper usage of pesticides and how to apply preventative measures to avoid bacterial contamination. Moreover, it conducts routine laboratory tests to maintain soil and water quality throughout the crop cycle. Smallholder farmers register on the platform, and this is an indication that their products are compliant with international and local standards. Finally, manufacturers and processors can buy their needed crops through the platform ensuring that they are of a premium quality⁽¹⁴²⁾.



Picture 17 : Decapolis start-up source: LinkedIn profile

Furthermore, one of the critical problems encountered by farmers due to mobility restrictions and safety measures is their inability to properly store their agricultural produce until they transfer them to food processors and manufacturers. Moreover, sometimes smallholders' farmers have limited access to water, electricity and proper roads which leads to perishing of their crops.

“BMTA&C” ⁽¹⁴³⁾ is a Moroccan start-up that works on offering storage solutions to smallholder farmers with limited access to water and electricity in Morocco, Togo and Ivory Coast. It innovated an off the grid cold storage system that function without the need for water or electricity. If a farmer has produce to store, they can use a USSD system to check availability and to book a space in a fridge. Unstructured Supplementary Service Data (USSD) works much like Short Message Services (SMS). Farmers pay using a pay-and-go system through their mobile network provider. For farmers to utilize BMTA&C storage units, they pay a fee based on the amount of time they use it for storing their produce. This gives farmers an opportunity to store their crops and fresh fruits until they can sell them with optimum prices to food manufactures and it contributes to the reduction of food wastes⁽¹⁴⁴⁾.

142. World Food Programme, Decapolis Blockchain traceability platform for smallholder farmers, 2021 <https://www.linkedin.com/company/decapolisio/?originalSubdomain=jo>

143. Fund for innovation in development, BMTA&C: reducing post-harvest losses with a new solar refrigeration technology, <https://fundinnovation.dev/en/projets/reducing-post-harvest-losses-in-africa-with-a-new-solar-refrigeration-technology/>

144. Thought for Food, Meet BMTA&C: A Moroccan Startup Making Accessible Off-grid Cold Storage Solutions for Africa, 2021, <https://thoughtforfood.org/content-hub/meet-bmtac-a-moroccan-startup-making-accessible-off-grid-cold-storage-solutions-for-africa/>



Picture 18 : BMTA&C Morocco source: company website

b) Water Management

“SWOIT” is a Moroccan start-up that focuses on increasing the efficiency of water usage in agriculture and they specially target youth and female farmers who do not have access to sufficient information regarding ongoing changes in markets and weather. The idea was derived amid the water problem that Morocco faced in 2020⁽¹⁴⁵⁾. This is achieved through the usage of a non-invasive remote-sensing multi-devices solution. It was one of the winners in MENA Regional Innovation Hub in 2021.

“Smart Land”⁽¹⁴⁶⁾ is another AgriTech start-up in Lebanon founded in 2019 that works in optimizing water usage where it created a smart controller that automatically regulates the irrigation of crops according to temperature and wind speed⁽¹⁴⁷⁾. Moreover, it created an automated fertigation machine⁽¹⁴⁸⁾. The startup has reached the final phase of the AgriTech Accelerator Batch 3 in 2020.



Picture 19 : SmartLand startup logo
source: smartlandagri.com in the foot note



Picture 20 : SmartLand automatic control of irrigation⁽¹⁴⁹⁾

145. Water and Energy for Food, Sowit Optimizing Irrigation For Sustainable Production And Market Access In Morocco And Tunisia, 2021, <https://we4f.org/innovators/sowit>

146. Company website: [Home | Smart Land \(smartlandagri.com\)](https://smartlandagri.com)

147. Company website: <https://bertytech.org/profiles/smart-land/>

148. Company website: [Zoom In: Smart Land | Bertytech](https://bertytech.org/profiles/smart-land/)

149. Company website: <https://bertytech.org/profiles/smart-land/>

Conclusion and recommendations for the agri-food sector

The agri-food sector showed ability to meet the emerging consumer preferences during COVID-19 outbreak, where it was able to shift rapidly to the sale of groceries online and it was able to introduce variety of healthy food that is high in nutritional value. However, one of the areas that the sector needs to focus more on is **the innovation in the process of agricultural production** to ensure that, in the future, disruptions in the supply chain will not be as severe as the one that happened during COVID-19. For instance, promoting the use of agricultural waste as source of fertilizers can contribute to overcoming future threats to global supply chain through guaranteeing an alternative plan for increasing the value of crops other than relying on other suppliers for the needed crops.

Accordingly, countries need to direct its efforts towards expanding the use of **contract farming** in its cultivation processes. Contract farming would in turn allow farmers to produce based on market demand, rather than being supply and cost driven, which would inevitably introduce farmers to new innovative cultivation techniques, including organic farming through agricultural waste. In addition, having a guaranteed send buyer (i.e., the contracted party) would incentivize farmers to adopt good agricultural practices as to qualify for niche and exports markets, which would in turn increase their productivity and income. For contract farming to be applied, however, existing developmental projects in Egypt, Tunisia, and Algeria tend to rely on **pilot/demonstration fields** (i.e., lands where the good practices being promoted are applied) as to showcase how productivity and income would increase when farmers adhere to the latter practices.

Thus, introducing innovation in agri-processes required intensive **awareness raising and capacity building trainings** to farmers, among other stakeholders in the agricultural value chain capitalizing on existing success stories of people from their local communities who succeeded in implementing the promoted for models, and benefited from them. Demonstration fields would similarly play a key role in encouraging farmers to follow the new innovative agricultural practices.

The below diagram summarized the key challenges, opportunities and recommendations for the agri-food sector.

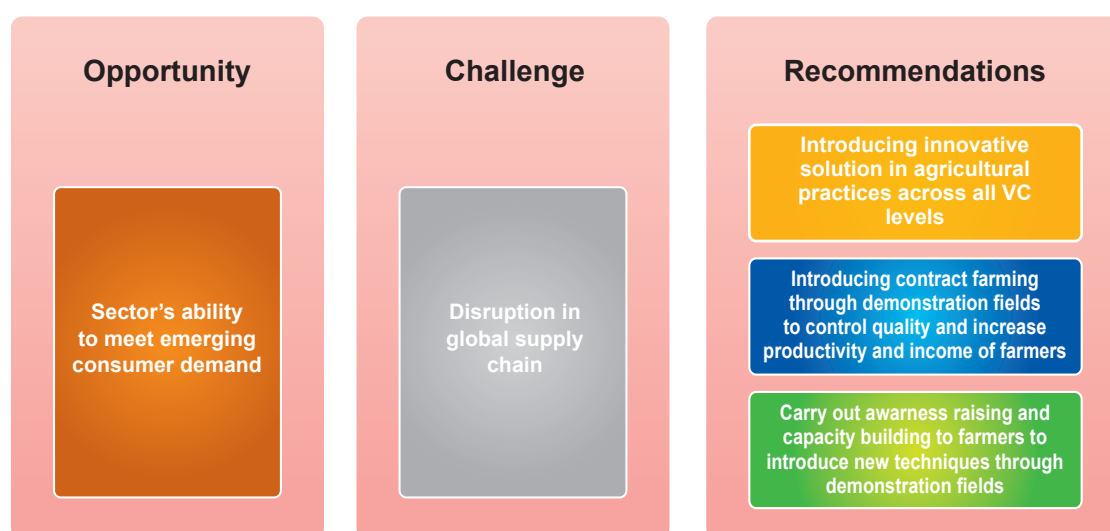


Figure 6 : Summary diagram of challenges, opportunities and recommendations for the agri-food sector

2- Textiles

The significance of the textile sector to the target countries is reflected in its contribution to GDP, employment, and trade. It is the second largest industrial sector in Egypt, accounting for around 3.5 percent of Egypt's GDP, and 34 percent of industrial production⁽¹⁵⁰⁾. It is estimated that the sector employs up to one million individuals in Egypt, the vast majority of whom work in the informal sector⁽¹⁵¹⁾. In Lebanon, the textile industry comprises around 14 percent of the total industrial sector, with almost 800 textile manufacturing facilities⁽¹⁵²⁾. For Jordan, the sector is comprised of 75,000 employees as well as 1260 establishments of which 80 percent are concentrated in clothing⁽¹⁵³⁾. As for Tunisia, the sector has long been considered strategic, being among the leading drivers of economic growth, where it holds the third largest share of contribution to GDP—26.6 percent⁽¹⁵⁴⁾. The sector is also developmentally important for Tunisia, particularly given that women constitute 80 percent of the sector's employment (out of 200,000 workers)⁽¹⁵⁵⁾. On the contrary, the textile industry has a relatively small presence in Algeria's local market; imports account for nearly 90 percent of textile supply, and local products takes up only about 6 percent of local market share. To add, the sector employs a meagre 13,000 employees⁽¹⁵⁶⁾.

Given its relevant importance, the aim of this section is to present an overview of the challenges that the textile sector encountered post COVID-19, followed by an analysis of the changes in consumer behavior across the six target countries being studied. Finally, the section will focus also on presenting innovative approaches applied by start-ups that will allow the sector to better cope with COVID-19 consequences and will open the door for entrepreneurs to capitalize on new business opportunities available in the sector.

Challenges Post COVID-19

Textile was deemed one of the main sectors severely affected by the pandemic of COVID-19. The pandemic has shone a focus on the textile and clothing industry, emphasizing crucial areas of value chain challenges prospects such as the need for digital enhancement, stock management, and supply chain transformation.

The effect of COVID-19 was felt across North African economies due to the supply chain disruption and demand reduction. The pandemic has consequently impacted the manufacturing process as well as the trade movement, particularly for textiles, electronics, and mechanics. For instance, in Egypt, because of reduction in international demand, many factories have reduced production, while others operated with a 50 percent capacity. Moreover, since the sector relies heavily on imported raw materials from China, the productive capacity in Egypt was expected to fall by 30 percent, with disruptions in supply chain hindering production⁽¹⁵⁷⁾.

150. "Egypt: Improving the international competitiveness of the textile and clothing sector (GTEX)". ITC.

151. Ibid

152. Textile Industry in Lebanon, Textile Infomedia, <https://www.textileinfomedia.com/textile-industry-in-lebanon>

153. IDI.

154. Textile : Le comportement du consommateur étranger décidera du repositionnement dans l'après-crise (Boufaden). Gnet News, 2020, <https://news.gnet.tn/Textile+%3A+Le+comportement+du+consommateur+%C3%A9tranger+d%C3%A9cidera+du+repositionnement+dans+l%E2%80%99apr%C3%A8s-crise+%28Boufaden%29+>

155. Labour Market Profile Tunisia – 2020/2021. Danish Trade Union Development Agency, 2020, <https://www.ulssekretariatet.dk/wp-content/uploads/2020/06/LMP-Tunisia-2020-Final-version.pdf>

156. Bliidi, Amel. Conséquences de la crise sanitaire : Le secteur de l'habillement désorienté. El Watan, 2020, <https://www.elwatan.com/edition/actualite/le-secteur-de-lhabillement-desorienté-18-10-2020>

157. Breisinger, Clemens, Mariam Raouf, Manfred Wiebelt, Ahmed Kamaly, and Mouchera Karara. "Impact of COVID-19 on the Egyptian economy: Economic sectors, jobs, and households". Middle East and North Africa, and Ministry of Planning and Economic Development, 2020, <https://www.ifpri.org/publication/impact-covid-19-egyptian-economy-economic-sectors-jobs-and-households>.

Production was also halted in Jordan due to inability to access more raw materials to recharge production. Exports in Jordan have also declined from USD 1.4 billion in 2019 to USD 1.1 billion in 2020. However, as of 2021, exports had reached USD 1.3 billion, with projections for the sector to rebound⁽¹⁵⁸⁾. Following the same path, the Tunisian textile sector witnessed a reduction in its exports, especially to its main markets in Europe due to stores closure and consumption reduction in European, which reduced European clothing imports by 25 percent during the first six months of 2020⁽¹⁵⁹⁾. It should be highlighted that Tunisia was the first to respond to the European demand for protective masks. During the first half of 2020, Tunisia was ranked the 4th supplier of the European Union in washable masks⁽¹⁶⁰⁾.

For Morocco, while exports fell by 11 percent in November 2020 compared to November 2019⁽¹⁶¹⁾, the textile sector was able to undergo a rapid conversion by directing production towards medical usage in response to the pandemic. The sector as a result managed to create 10,684 jobs in 2020, generated an additional turnover of DH 28.6 billion⁽¹⁶²⁾, and increased its exports to the European Union by 23 percent in 2021, reaching a record high⁽¹⁶³⁾. In Algeria, a 14.6 percent decline in the sector was observed⁽¹⁶⁴⁾. Furthermore, As COVID-19 has impacted consumers' incomes, an increase in the demand for local products and more sustainable consumption patterns have been observed⁽¹⁶⁵⁾. As for Lebanon, while data on the severity of the pandemic on the sector was not available, a month-long shutdown with no revenue was the tipping point for small clothing retail firms that were already suffering.

The reliance on imported raw materials was one of the main challenges facing this sector, which increases the risk of obstructing production. This challenge is particularly felt in Algeria, Egypt, Lebanon and Tunisia. Moreover, the low deployment of technologically advanced techniques coupled with the low skills' level for the labor in the sector has adversely affected the sector's competitiveness and productivity- which was evident in Egypt and Jordan. Adding to that, the lack of access to marketing tools and effective marketing strategies also contributed to the weakening of the sector, which is the case in Algeria and Morocco. Political instability also plays an important role in the efficiency of the sector, particularly for Lebanon, given that it results in supply chain disruptions and inability of businesses to continue their operations.

Even though the sector has always concentrated on the aforementioned areas, the crisis has made it clear that immediate measures are required. The industry has understood that it must respond promptly to society's rapidly changing needs, such as the growing demand for antiviral apparels, home textiles, and wearables, as well as the faster acceptance of digital tools. And, above all, the focus should be on attaining long-term survival through sustainable growth. In the current context, on-demand and micro-factory solutions are required to better match demand and supply. It can swiftly ramp up production as needed – due to manufacturing procedures that help reduce waste and provide specialized logistic solutions throughout the supply chain.

158. Skills for Trade and Economic Diversification (STED) in the Garment & Leather Manufacturing Sector in Jordan. ILO. 2020, https://www.ilo.org/beirut/publications/WCMS_758308/lang--en/index.htm

159. Story: Tomorrow is already here: The Tunisian textile and clothing sector is ready for the post-COVID reality. ITC News, 2021, <https://stage.intracen.org/layouts/2coltemplate.aspx?pageid=47244640256&id=47244683322>

160. Ibid

161. Bennour, Safaa. Bouleversé par la crise, le textile marocain en quête d'un fil d'Ariane. Agence Marocaine de Presse, 2021

162. Covid: Le textile retrouve des couleurs. L'Economiste, 2021, <https://www.leconomiste.com/flash-infos/covid-le-textile-retrouve-des-couleurs>

163. Bennour, Safaa. Bouleversé par la crise, le textile marocain en quête d'un fil d'Ariane. Agence Marocaine de Presse, 2021, <https://www.mapexpress.ma/actualite/economie-et-finance/bouleverse-crise-textile-marocain-en-quete-dun-fil-dariane/>

164. Mohamed, Yahia, and Lamine Mestek. Algeria: Politics and Protests in Coronavirus Times., <https://www.atlanticcouncil.org/wp-content/uploads/2020/12/ISPI-AC-2020-Politics-of-pandemics-CH.2.pdf>

165. Chikhi, Kamel. L'impact De La Crise Sanitaire Du COVID-19 Sur Le Comportement De Consommation des Algériens. Revue D'Etudes en Management et Finance D'Organisation, 2021, <https://revues.imist.ma/index.php/REMFO/article/view/22892>

Consumption Behavior Post COVID-19

Reduction in demand for clothes was mainly felt in Algeria, Jordan, Lebanon and Morocco. In Algeria, for instance, demand on most non-essential goods including fabrics and clothes have witnessed a significant decline. Traders estimate this decrease in purchasing power to be around 40 percent. A similar pattern was observed in Jordan, where people increased their consumption of energy and food, whilst decreasing their clothing purchases or shifting towards second-hand and outlets. As for Lebanon, the general expenditure cut which was further exacerbated by the pandemic has pushed consumers to rely on accessories as a way of restyling their outfits, enabling them to wear it several times without looking the same. There was thus a general increase in demand on accessories and practical/versatile clothing. In Morocco, the textile sector has also suffered in terms of local demand, given that clothing purchases were not considered essential by most households, and hence were not a priority.

Reduction in purchasing power was also a common impact across countries because of the pandemic. Income uncertainty, coupled with lifestyle changes imposed by the lockdown had caused noticeable shifts in consumers' preferences and consumption choices. That said, while consumption is picking up again, there is still a mismatch between pre and post pandemic consumption.

On the contrary, consumption patterns were negligibly affected in Egypt and Tunisia. A survey conducted in Egypt during the pandemic, showed that 72 percent of Egyptian consumers have been purchasing more online since the start of the pandemic, while more than 62 percent of Egyptian customers claimed to have shopped more online for apparel⁽¹⁶⁶⁾. As for Tunisia, there is considerable interest in second-hand clothing, with up to 70 percent relying on them⁽¹⁶⁷⁾, which is expected to have increased with the pandemic. Moreover, there is a general preference for athleisure and comfortable clothing that increased with the pandemic, particularly for males.

Emerging Market Trends and Opportunities

Due to the challenges that COVID-19 imposed and alongside changes in consumption behavior and preferences, new market trends and opportunities started to emerge. For instance, **"Sigma Fit"** in Egypt decided to use its hydrophobic technology to produce protective medical suits and masks, which acts an alternative for disposable medical suits, cheaper, offer more protection and are more environmentally friendly in an attempt to cope with the preventive measures prevailing then. The fabrics used in Sigma Fit are stain and water resistant⁽¹⁶⁸⁾.



Picture 21 : SIGMAFIT logo

166. "72% of Egyptian Consumers are Shopping More Online since the Start of Pandemic, Reveals Mastercard Study". Mastercard, <https://newsroom.mastercard.com/mea/press-releases/72-of-egyptian-consumers-are-shopping-more-online-since-the-start-of-pandemic-reveals-mastercard-study/>

167. Brown, Erin. Digging for fashion finds in Tunisia's famous 'fripes'. The National News, 2021, <https://www.thenationalnews.com/mena/2021/10/09/digging-for-fashion-finds-in-tunisias-famous-fripes/>

168. Mena bytes, Egyptian sportswear startup Sigma Fit raises investment for expansion, [Egyptian sportswear startup Sigma Fit raises investment for expansion \(menabytes.com\)](https://menabytes.com/).
Company website: <https://sigmafiteg.com/>



Picture 22 : SIGMAFIT promo

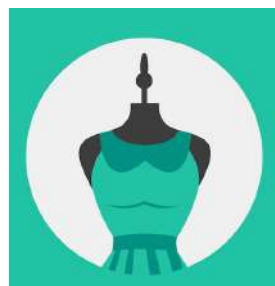
Adding to that, countries like Egypt, Tunisia and Morocco started producing medical masks amid COVID-19 outbreak, some companies also started producing washable clothes masks. However, according to an Egyptian textile expert, market for medical masks is currently saturated leaving a little room for further companies to penetrate the market.

Based on the consumption behavior analysis conducted in the previous section, it was found that due to the reduction in incomes, some consumers started resorting to buying second-hand clothes for them being cheaper and of good quality. For example, one of the leading start-ups in the field in Tunisia is “**Dabchy**”, which is a peer to peer (P2P) fashion marketplace founded by a female entrepreneur at the aim of selling pre-owned clothes. In 2019, it raised \$300,000 in seed fund.

It is also currently operating in Morocco and Algeria. The platform gives the opportunity to sell new unused items owned by someone, self-made items and used items⁽¹⁶⁹⁾. With the existence of the pandemic and the uncertainty that people still have regarding their future income levels, this gives entrepreneurs an opportunity to explore innovative ways to penetrate the market for second-hand clothes.



Picture 23 : Dabchy platform
Source: company website



Picture 24 : Dabchy logo
Source: company website

169. Wamda, Dabchy raises \$300,000 in seed fund, 2019, [Dabchy raises \\$300,000 in seed fund - Wamda](#)

Furthermore, as one of the main challenges that encountered the sector during COVID-19 is the disruption of the value chain, one of the ideas that were developed in Egypt is a B2B e-commerce **“Gahez”**. The startup detected the fragmentation in Egyptian textile market and started working on bridging the gap between different players in the market through the use of technology⁽¹⁷⁰⁾. It focuses on connecting fashion retailers and manufacturers through an online platform in order to ensure efficiency of the trading process⁽¹⁷¹⁾. Fashion retailers choose the products they need and the sourcing options through the online platform. This reduces the time spent by retailers in the process choosing the needed products and in securing deals with trusted manufacturers. The platform also works on facilitating the collection and payment process through offering on-credit facilities⁽¹⁷²⁾. Adding to that, the platform offers shipping and logistics services. Such services highly benefit both manufacturers and retailers through facilitating the trade process. For instance, the platform allows retailers to easily reach manufacturers and to buy the products they need at a lower cost, and it gives retailers an access to a broader range of textile products, which will later allow them to expand the scope of their businesses. From the manufacturer side, the platform widens the consumers base of manufacturers and reduces the hassle that they used to encounter when it comes to managing logistics⁽¹⁷³⁾.

Finally, the lack of accessibility to raw materials amid COVID-19 outbreak due to mobility restrictions halted production in the target countries. Hence, it is of crucial importance to start looking for alternative ways to obtain raw materials to avoid future disruptions in the procurement of raw materials. For instance, in United Arab Emirates, there is a company called **“DGrade”** that has been producing clothes from plastic water bottles since 2010, the figure below shows how plastic is turned into fabrics. The company is currently planning to expand in Egypt given the size of the textile market in Egypt and the amount of plastic wastes in the country⁽¹⁷⁴⁾.

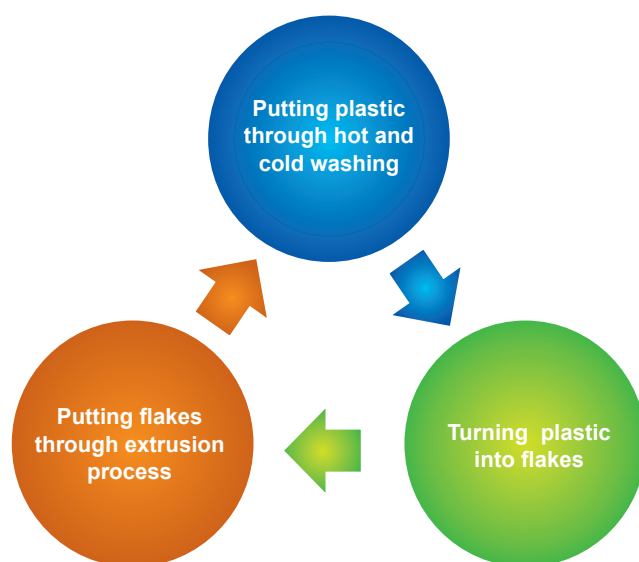


Figure 7 : Transferring Plastic to Fabrics process

170. Startup scene, Egyptian B2B Fashion Marketplace Gahez Raises \$2 Million Pre-Seed (thestartupscene.me),2022, [Egyptian B2B Fashion Marketplace Gahez Raises \\$2 Million Pre-Seed \(thestartupscene.me\)](https://thestartupscene.me/)

171. Wamda, B2B e-commerce Gahez raises \$2 million pre-Seed round, 2022, [B2B e-commerce Gahez raises \\$2 million pre-Seed round - Wamda](https://wamda.com/)

172. Disrupt, Egyptian e-commerce startup Gahez raises \$2m pre-seed funding, 2022, [Egyptian e-commerce startup Gahez raises \\$2m pre-seed funding \(disrupt-africa.com\)](https://disrupt-africa.com/)

173. Daily news, Gahez Market' e-commerce platform debuts in Egypt, 2021, [Gahez Market' e-commerce platform debuts in Egypt - Daily News Egypt](https://dailynews-egypt.com/)

174. Arab news, Dubai plastic waste-to-clothes startup looks to KSA, 2022, [Dubai plastic waste-to-clothes startup looks to KSA \(arabnews.com\)](https://arabnews.com/)

Adding to that, **“Up Fuse”** is an Egyptian brand, which was established in 2013 and it designs and produces different types of apparel like bags and footwear from recyclable materials like plastic and tires⁽¹⁷⁵⁾.

This opens the doors for entrepreneurs to further explore different alternatives for fabric production. Moreover, anti-viral fabrics are currently experiencing an increase in attention giving entrepreneurs an opportunity to introduce this type of fabrics to textile markets in MENA Region.

Conclusion and recommendations for the textile sector

As observed, COVID-19 has introduced a shift in the behaviors of consumers towards the textile sector, which in turn created new market gaps, and new services that have emerged across the six countries of focus in this study.

However, the strong reliance of the sector on imported raw material, as well as the reliance on poor skills-sets among labour in the sector and the prevailing poor communication channels between the value chain actors have caused the sector to stagnate amid COVID-19.

In light of this, introducing innovation in the sector is crucial to meet the new market gaps that emerged. Innovation could include new production behaviors, the reliance on new production material and inputs, and/or opening new market channels to reach a wider audience. This, in turn, requires manufacturers to be aware of the new prevailing market trends, and accordingly produce based on market needs, rather than be solely cost-driven in their sourcing of inputs and production processes.

As such, it is recommended that manufacturers in the sector be exposed to successful local models who introduced new processes to their models and achieved measurable return on investment (ROI) through these measures. This could in turn lead to a second wave of movers taking initiatives to cope with the changing environment.

Additionally, raising awareness on alternative sources of input is especially crucial with the disruption in the global supply chains, which can be promoted for through existing successful models mentioned in the previous sector to other entrepreneurs and businesses, which would also facilitate the second wave of movers.

175. Up fuse, <https://up-fuse.com/the-brand/>

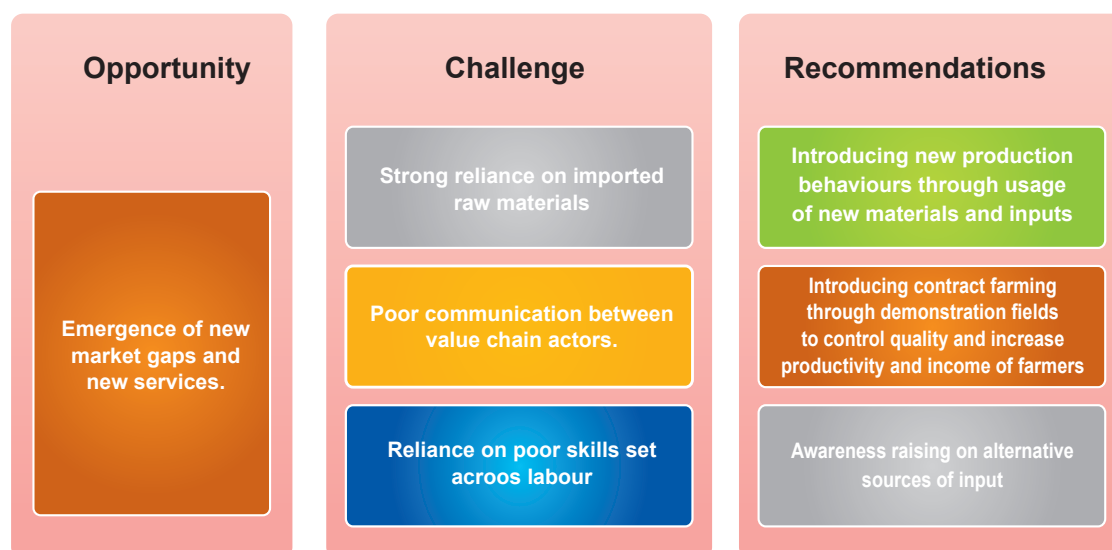


Figure 8 : Summary diagram of challenges, opportunities, and recommendations for the textile sector

3- Information and Communication Technology (ICT)

The significance of the ICT sector to the target countries is reflected in its contribution to GDP, employment, and trade. In Egypt, the sector is the 11th largest sector in the country and is an undeniably crucial cog in the industrial sector⁽¹⁷⁶⁾. Telecommunications contribute largely to the sector as it accounts for 44 percent of value added, followed by information technology and other services at 30 percent, while ICT manufacturing accounts for the remaining 26 percent which is remarkable given that most developing countries outside of East Asia generate minimal ICT equipment⁽¹⁷⁷⁾. In Lebanon, the ICT sector contributed by around 2.1 percent of the country's GDP - i.e., a value of USD 1.1 billion in 2018. It is estimated that the ICT Services and manufacturing sector in Lebanon employs roughly 10,700 individuals, with the software sub-sector accounting for the bulk of the sector's employment at around 60 percent, followed by the digital/start-up economy section, employing 16 percent of the sector's employment⁽¹⁷⁸⁾. For Algeria, latest available data show that the contribution of the ICT sector to Algeria's GDP is 4.7 percent and is projected to grow to reach 5.5 percent⁽¹⁷⁹⁾. Nonetheless, Algerian consumers still prefer to purchase things in person, in cash, and from brick-and-mortar shops⁽¹⁸⁰⁾. In addition, studies have indicated that companies in Algeria do not adequately utilise ICT products—as only 20 percent of companies have an efficient computer tool, 15 percent have their own website, and 50 percent lack an adequate accounting system⁽¹⁸¹⁾. The ICT sector, in Tunisia, can be described as relatively new and small, but rapidly growing. According to the Tunisian Investment Authority, the ICT sector now provides 80 thousand jobs in Tunisia, contributing with 9 percent to the Tunisian GDP in 2017, and has had

176. World Bank, "Creating Markets in Egypt", 2020, <https://www.ifc.org/wps/wcm/connect/af513599-08b4-45a4-b346-1a44de58cda6/CPSD-Egypt.pdf?MOD=AJPERES&CVID=npT1-BJ>

177. Ibid

178. IDAL, ICT Sector in Lebanon 2020 Factbook, 2020, https://investinlebanon.gov.lb/Content/uploads/SideBlock/2007280221144_23-IDAL%20-%20ICT%20Factbook%202020.pdf

179. Kwasi, Stellah; Cilliers, Jakkie, Institute for Security Studies, "Stagnation or growth? Algeria's Development Pathway to 2040", p. 30, 2020, <https://issafrica.s3.amazonaws.com/site/uploads/nar-5.pdf>

180. Bank of Africa, Algérie: Approcher le consommateur. 2021, <https://www.btrade.ma/fr/observer-les-pays/suisse/approcher-consommateur>

181. Khenniche, Youcef; Mokrane, Ali; Dhifalla, Mohamed Elhadi. Adoption et utilisation des Technologies de l'Information et de la Communication (TIC) en Algérie : état des lieux. Research Gate, 2020, <https://www.asjp.cerist.dz/en/article/17322>

an annual growth rate of 8 percent from 2015 to 2020. In Morocco, the ICT sector is relatively new as well and is mainly focused on electronic equipment. As for Jordan, the sector employed 17,698 people in 2018, with men holding 67 percent of all jobs⁽¹⁸²⁾.

Given its relevant significance, the aim of this section is to present an overview of the challenges that the ICT sector faced post COVID-19, followed by an analysis of the changes in consumer behavior across the six target countries being studied. Finally, the section will focus also on presenting innovative approaches applied by start-ups that will allow the sector to better cope with COVID-19 consequences and will open the door for entrepreneurs to capitalize on new business opportunities available in the sector.

Challenges Post COVID-19

Despite the many downturns that faced the other sectors in response to COVID-19, Information and Communication Technology (ICT) was remarked as a resistant sector in the face of the prevailing challenges. Despite the lockdown, social distancing, and prevention measures, ICT sector remained robust in the face of the pandemic. This is attributable to the rising demand on online platforms as well as the shifts towards digital transformation.

However, the sector still suffers from several rooted challenges that must be addressed to ensure the future growth of the sector. For example, (1) poor communication infrastructure is one of the impediments to the sector's efficiency in multiple countries including Algeria, Egypt and Lebanon. Areas with poor Virtual Private Network (VPN) and infrastructure faced obstacles regarding remote work and social distancing. This is applicable in the various sectors of education, e-commerce, health, and fintech. Additionally, (2) full digital transformation requires major infrastructure investments as well as a sustainable virtual network to guarantee efficiency. For instance, Algeria's ICT hardware sector was negatively affected by the pandemic, which was particularly evident in the dramatic drop in sales in hardware components. With increase in prices, (3) consumers shifted their priorities to purchasing necessities, conveying less willingness to purchase new products, and opting instead to fix their old ones. However, as COVID-19 regulations started to loosen, demand on laptops has increased. It is worth noting however that these challenges are prevailing regardless of the pandemic. Moreover, lack of strict property rights in Arab countries also discourage investors to operate in the sector, potentially imposing huge losses on ICT companies- a challenge that is evident in Jordan.

Consumption Behaviour Post COVID-19

There is a predominant change in people's mindsets and their technological engagement as consumers have started to use the internet and gadgets more frequently during isolation, for things that are essential—such as work—as well as things conventionally done in person, such as grocery shopping.

Egypt, for example, witnessed a huge growth in internet usage in the past few months, with 87 percent and 18 percent increases in home and mobile internet consumption, respectively. In Tunisia, the number of mobile connections in January 2020 was equivalent to 151 percent

182. Information and Communication Technology Association of Jordan, ICT Sector in Jordan 2018, 2018, <https://intaj.net/wp-content/Studies/2018.pdf>

of the total population, and the number of social media users in Tunisia increased by 473 thousand (and increase of 6.9 percent) between April 2019 and January 2020. Morocco also witnessed an increase in internet penetration rate by 10 points from 74.4 percent in 2019 to 84.1 percent in 2020—an increase of 3.5 million internet users. As of January 2021, Algeria had 26.35 million internet and social media users, representing 60 percent of its population, and exhibiting a 16 percent increase in its number of users, compared to January 2020 figures. In Jordan, between 2020 and 2021, the number of internet users rose by 56 thousand (+0.8 percent). On the contrary, the number of internet users in Lebanon decreased by 34 thousand (-0.6 percent) which is considerably an insignificant decrease. However, the number of Lebanese social media users remained the same this period accounting for 64.3 percent of the entire population.

In the light of this, and as consumption behaviours shifted to online shopping, digital transformation was perceived as a primary channel for businesses to maintain their operations and activities. These changes in lifestyles and consumption behaviour shed some light on the importance of widening the capacity of digital economies through investing in digital infrastructure, to be able to fit in a dynamic and a digitally led world.

Emerging Market Trends and Opportunities

COVID-19 pandemic caused a major boom in the ICT sector. The dominant trend is concentrated in the shift towards digital transformation. This was due to the general challenges imposed by COVID-19 in parallel to the encounters ICT sector faced. Consumers, businesses, retailers as well as education were all pushed to resume remotely. The shift in consumers direction towards conducting all their day-to-day activities online had strong effect on services provided by businesses. This led businesses to rely primarily on their online platforms to sell their products/services, such as e-health platforms, retail shops, etc, and also led to the emergence of new industries, such as the FinTech industry. On the other hand, the emergence of these new services also had some sort of impact on consumers behaviours. For example, consumers now are becoming more connected and they have higher expectations from service providers due to the fierce competition especially post COVID-19. Moreover, the wide variety of services available resulted that some consumers are shopping more than before COVID-19.

Bearing in mind that ICT is cross-cutting with other sectors, it is observable that several opportunities that were leashed are interlinked with other fields. Looking at the general patterns of ICT usage in the world, particularly amidst the pandemic can give insights on new market opportunities that countries can capitalize on.

A) Fintech

Fintech⁽¹⁸³⁾ is a portmanteau of the terms “finance” and “technology” and refers to any business that uses technology to enhance or automate financial services and processes. The term encompasses a rapidly growing industry that serves the interests of both consumers and businesses in multiple ways⁽¹⁸⁴⁾.

183. Shareppy, O2 JUN is the fintech time, <https://www.google.com/url?sa=i&url=https%3A%2F%2Fshareppyinternacional.com%2Fis-the-fintech-time%2F%3Fang%3Den&psig=AOvWaw2cZKH4nXIJvRi7qa-f7qmO&ust=1649685647193000&source=images&cd=vfe&ved=0CAoQjRxqFwoTCJCXpuHSifcCFQAAAAAdAAAAABAI>

184. <https://builtin.com/fintech>

Fintech is one of the main areas that developed numerous innovations across the MENA region. This area of innovation merely relied on the preventive measures applied then in terms of the lockdown, social distancing and people's fears of leaving their homes, so they won't get infected by the virus. In other words, the preventive measures paved the way for the boost this sector witnessed.



Picture 25 : Fintech: Shareppy

In Algeria, the main assessed Fintech initiatives are mainly in public sector and evolved in 2020-2021

Among other services offered to consumers, Algeria Post has put in 2020 a new mobile payment application **BaridiMob** available to its customers with a range of electronic money and financial services. This mobile application, which highlights a range of postal electronic money and financial services of Algeria Post, including the management of Compte Chèque Postal (CCP) accounts remotely, and the possibility of making online payments while contributing to the resolution of the liquidity crisis, already announced during the adoption of the Finance Bill 2021⁽¹⁸⁵⁾.



Picture 26 : Baridi Mob
Source: company website

Regarding payment via internet, more than 7.8 million operations were recorded during the year 2021 by the holders of interbank cards (CIB) and **Edahabia cards** of Algeria Post, against 4.5 million in 2020, that is to say an evolution of 70.25 percent. In 2021, the total amount of transactions carried out via the Internet reached 11.200 billion dinars, against 5.4 billion dinars recorded in 2020⁽¹⁸⁶⁾.



Picture 27 : Edahabia cards
Source: company website

In addition to other services offered, in anticipation of the start of the 2020/2021 academic year, Algeria Post has also made available to new baccalaureate holders a platform on the website www.poste.dz for the registration of their applications to open accounts online⁽¹⁸⁷⁾.

185. Algérie poste lance le paiement mobile grâce à l'application BaridiMob <https://aita.dz/algerie-poste-lance-le-paiement-mobile-grace-a-lapplication-%e2%80%8ebaridimob/>
Company website : <https://www.poste.dz/services/professional/baridimobweb>

186. Algérie press service, paiement par internet: plus de 7,8 millions d'opérations effectuées en 2021, <https://www.aps.dz/economie/134477-paiement-par-internet-plus-de-7-8-millions-d-operations-effectuees-en-2021#:~:text=ALGER%20%2D%20Plus%20de%207%2C8,de%20la%20mon%C3%A9tique%2C%20Madjid%20Messaoudene.>

187. For more details please visit this website : <https://www.aps.dz/sante-science-technologie/112310-une-plateforme-a-la-disposition-des-nouveaux-bacheliers-pour-l-ouverture-de-comptes-ccp>
Company website : <https://aita.dz/algerie-poste-lance-le-paiement-mobile-grace-a-lapplication-%e2%80%8ebaridimob/>

Fintech sector was a major success in Egypt compared to the other countries understudy. In the line of this, **“EDUPAY”** is a start-up in the form of a mobile application that began in Egypt to simplify interactions and transactions in education. It is a financial tool that connects students to any school or university, either at their network or not, to ease the payment for them through one click.

Another well-established example in this regard is **“Fawry”**. It is the Leading **Egyptian** Digital Transformation & E-Payments Platform, offering financial services to consumers and businesses through more than 225,000 locations and a variety of channels. **Fawry** offers a convenient and reliable way to pay bills and other services in multiple channels (online, using ATMs, mobile wallets, and retail points). Post the pandemic, **Fawry’s** network of retailers widened to include small groceries, pharmacies and stationaries, and post-offices, all equipped with point-of-sale machines – the same ones used for credit card payments⁽¹⁸⁸⁾.

Meanwhile in Tunisia, **“Deepra”** is an artificial intelligence tool that aims to democratize finance by offering “Investment advisory for everyone” via a Robo-Advisor that provides safe, personalized investment advice and executes it at the client’s request.



Picture 28 : Fawry
Source: company website

Also, **“Konnnect”** in Tunisia helps businesses of all sizes develop their activities and grow by providing their customers with a variety of intuitive and easy-to-implement online payment methods as it allows companies, or any users having email addresses to send and receive payments online in a practical, secure, and low-cost way.

B) Health-tech

There is no doubt that the health is one of the main sectors that were negatively impacted by the pandemic. This indeed created the need for incorporation between both sectors to overcome the prevailing challenges.

Eyadaty is an Algerian start-up serving health in the digital age. «Eyadaty aims to be an innovative solution that hopes to change the lives of patients and make their daily lives easier⁽¹⁸⁹⁾.



Picture 29 : Eyadaty Source: company website

188. Company website: <https://fawry.com/>

189. BLASTINGNEWS, 2021, <https://beesens.com/thematiques/967>

In the health sector, an application named **“ELHA2NY”** in Egypt rose with the objective of linking parents with baby incubators and helping them with booking incubators. This was indeed an innovative step towards easing the process of connecting parents in need for baby incubators in line with the lockdown and preventive measures prevailing then.

In the context of mental health, **“AHKILI”** is a mobile mental healthcare booking platform connecting psychologists to patients through telemedicine in Tunisia.

Also in the line with the integration between health and information and communication technology, **“Chefaa”** is a mobile application established by 2 entrepreneurs in Egypt that works as a common platform for various pharmacies to provide medical supplies, baby care products, oral care, organic products and many more where users' order gets delivered at their doorsteps⁽¹⁹⁰⁾.



Picture 30 : Ahkili Source: company website



Picture 31 : Chefaa Source: company website

C) Education-tech

The integration between education and information and communication technology was deemed necessary in line with the global remote learning experience. Major opportunities were leashed to ease the learning process. This is not only concerned with the academic learning but also career coaching and on-the-job trainings.

“COACH YOU”⁽¹⁹¹⁾ is an Arabic-enabled online marketplace in Jordan that provides employees at all career levels across various industries with dynamic and personalized digital coaching experience to accelerate long-term professional development and drive business growth through connecting them with the best coaches from the MENA Region and beyond. It gives a room for multiple female coaches to operate and share their knowledge and experiences with others in the context of career coaching.

In Algeria emerged a school support site, **“Dirassatti”**, which offers courses, exercises with solutions, videos, and quizzes for all grade levels from primary school to university (currently the site provides content only for level Bachelor)⁽¹⁹²⁾.



Picture 32 : Dirassatti logo Source: Facebook page website

190. Company website: <https://chefaa.com/ar>

191. Company website: <https://www.coachyou.io/#/>

192. Dirassatti Facebook page: <https://www.facebook.com/nkheyarcom/>

On a different scope, **“AGAB STUDIO”** is a rising start-up in Egypt that aims at educating people with disabilities on how to recycle paper to use it in various products. Meanwhile, **“Datapathology”** is an online platform in Morocco that offers lectures via recorded video and many other features in the medical field.

In Tunisia on the other hand, **“Finbudd”** is an online platform founded by a female entrepreneur at the aim of enabling candidates for financial certification exams prepare more efficiently and optimizes their efforts and time such as CFA, CAIA, CFP, etc⁽¹⁹³⁾.

D) Web development

In the context of web development, various tools were created to ease businesses' processes and linkages among interested parties. In web development field emerged **“DOKKEN”** in Tunisia- A one-stop-shop solution for business owners looking to create their websites in less than 5 minutes and for a low monthly fee.

“Fleets.ai” is a fleet monitoring system in Lebanon that extracts and analyses data to simplify the fleet management process by providing an easy to use and real time platform that will enable fleet managers to take the best possible care of their vehicles.

E) E-commerce

The shift to digital transformation triggered major enhancements and innovation in the e-commerce field.

“Bloom Local” - a retail technology and content optimization company in Jordan that enables sellers to digitize their products quickly and effectively across channels to shoppers nearby and grow their sales online.



Picture 33 : Finbudd Source: company website

“Mini and More” is a start-up in Lebanon that offers powerful and scalable web-based retail management solutions, enabling retailers to manage multiple stores efficiently.

“Chari.ma” is an e-commerce and fintech application for traditional retailers in French-Speaking Africa in Morocco emerged to allow them to order any consumer goods they sell and get delivered for free.

“I Make this” is a venture that was founded to empower and help talented women in **Egypt** who make unique and artistic or offer innovative services advertise their small businesses and boost their sales. It is an online platform initiated by a woman entrepreneur “Rania Atef” to support all women in the business of handicrafts.



Picture 34 : make this logo
Source: Facebook page website

193. Company website: <https://www.finbudd.com/>

It is a shared platform for multiple women venders and stores of multiple products such as skin and hair care products, jewellery, stationary tools, pets related products, as well as shops of home-cooked meals and many more⁽¹⁹⁴⁾.



Picture 35 : Fashion

Conclusion and recommendations for the ICT sector

To sum up, despite the major challenges faced by the ICT sector, it is fair to acknowledge that it is the only sector to have flourished during the period of the pandemic. This was highly relying on the preventive measures and social distancing that led consumers and businesses of different scales to rely on it to proceed their day-to-day activities and processes. Many areas and fields of innovation emerged in this regard such as fintech and e-commerce, specifically in Egypt and Tunisia. Other countries such as Algeria still lag given the fact that people are resistant to digital tools and prefer to pay in cash for instance. Hence, it is recommended that entrepreneurs focus on establishing online platforms that are user friendly and to invest in having efficient customers support to be able to attract wider base of consumers given the fierce competition in the field. Adding to that, offering different payments methods like through credit cards and cash on delivery will encourage more people to rely on e-commerce.

Accordingly, the emerging demand on the ICT sector relevant services sets a great foundation for businesses to emerge. Nonetheless, awareness on the prevailing challenges in the communication infrastructure across the countries of focus, in addition to the awareness on the regulatory constraints that could prevail is crucial to allow new emerging entrepreneurs to establish their businesses with managed expectations and contingency plans at hand. For instance, understanding the regulatory constraints facing the sector can help businesses avoid any disruption to their operations, and accordingly would reduce unnecessary additional costs.

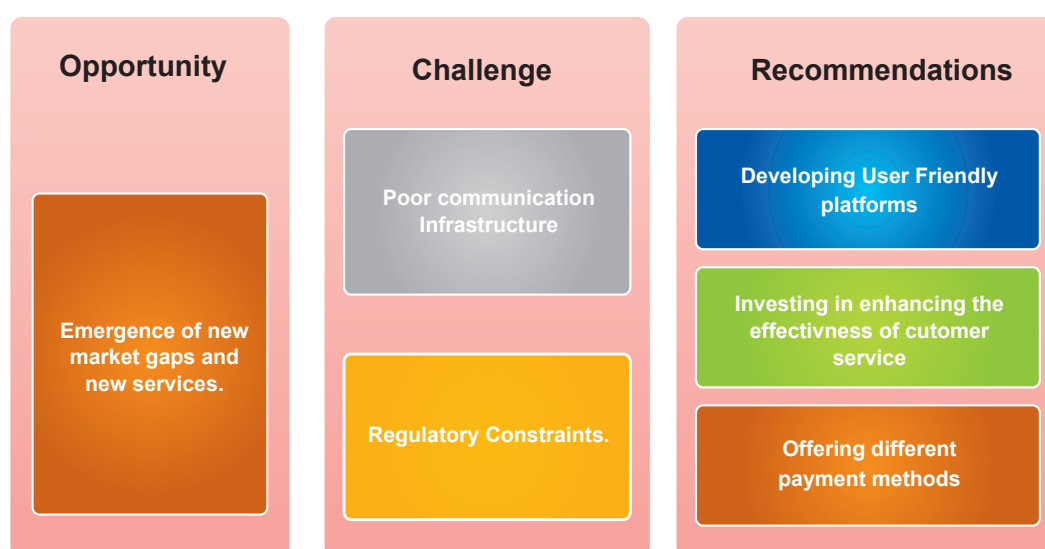


Figure 9 : Summary diagram of challenges, opportunities and recommendations for the ICT sector

194. Company website: <https://imkthis.com/store-listing/>

Conclusion

Conclusions and recommendations

The emergence of COVID-19 pandemic was an upheaval around the globe and particularly in the Mena region. The world witnessed an overall reduced productivity, lower incomes, and major job losses. However, it also led to the emergence of new initiatives capitalizing on the new market trends as an attempt to adapt to the challenges faced by the pandemic. New initiatives include processes innovations, emergence of new products and the high dependence on digitalized approaches.

In accordance, this report analyzes the sectors of agri-food, textile, and information and communication technology that were identified as sectors with high potential for women participation and for creating businesses in six MENA countries, namely Egypt, Jordan, Lebanon, Algeria, Morocco, and Tunisia. This is depicted mainly in terms of product changes, businesses adaption, and process innovation. This was done through conducting secondary research and secondary data was validated through conducting interviews with industry experts and consultants in the target countries. The analysis mainly tackled the emerging market trends in the sectors of focus, recent changes in consumer behaviour trends, innovations and technological advancements in target countries.

Despite the economic downturn that target countries encountered across different spheres during the pandemic, new potential opportunities emerged because of the changes in consumer behaviour amid COVID-19 outbreak. For instance, agri-food sector encountered multiple challenges during the pandemic namely, reduction in production capacity, restricted access to labour and raw materials, closure of food outlets and reduction in individual incomes. However, despite these challenges the sector was able to adapt to changing consumer behaviour through the sale of healthier and more nutritious food options, the increased usage of e-groceries. Adding to that, the challenges imposed by COVID-19 shed the light on the need to digitalize the logistics and production process in the sector. Hence, different start-ups started paying more attention to different agricultural approaches like the use of bio wastes to produce organic fertilizers and contract farming. Moreover, other startups started focusing on offering innovative storage solutions for smallholder farmers, technological monitoring of the farm and on developing water management solutions.

Adding to that, the textile sector also suffered from inability to access imported raw materials due to disruptions in global supply chains alongside reduction in demand for textile products because of the decline in individual incomes. Hence, it is recommended for market players in the sector to start looking for alternative production raw materials like using recycled materials to be able to overcome any unforeseen disruptions in the global supply chain the future. Moreover, other players in the sector capitalized on the digital transformation which was imposed by COVID-19 and started resorting to e-commerce for the sale of their products either through connecting manufacturers to retailers or through connecting retailers to end consumers.

Finally, despite the many downturns that faced the other sectors in response to COVID-19, Information and Communication Technology (ICT) was remarked as a resistant sector in the face of the prevailing challenges. This is due to an increase in demand for online platforms as well as a trend toward digital transformation. In other words, Consumers have started to use the internet more frequently during isolation, for things that are essential—such as work—as well as things that are traditionally done in person, such as grocery shopping. This has resulted in a significant shift in people's mindsets and in a sharp increase in their technological engagement. This motivated businesses to resort to their online platforms for the sale of their products or services. Therefore, a surge was observed in the usage of e-health platforms, fintech and e-commerce platforms. However, the sector still suffers from several rooted challenges that must be addressed to ensure the future growth of the sector namely, poor infrastructure, the shift in consumers priorities to buying necessities and the lack of strict property rights.

Annex

Annex 1: Table 1: IDIs sample split

Country	Sector	Position
Tunisia	Textile	Owner of Texile factory
	Textile	Owner of Haute Couture Workshop
	ICT	CEO of IB Space
	Food	Consulting firm manager in the agri-food sector
Algeria	Food	Works in SPA Fruitall Zone Industriel Rouiba Alger
	ICT	Owner and retail sale of computer and office equipment
	Textile	Manager/Sale of Fabrics and Blinds
Morocco	Textile	Owner of Star Fashion House
	Food	Owner of Al JAWHARA PURE ARGAN
	ICT	CEO of 2M SYNERGY
	ICT	CEO of JDI Soft
Jordan	Food	Food packaging expert
	Textile	Textile Packaging supplier
	Textile	Textile Expert
	ICT	Shamal Start Incubator Manager
Lebanon	Textile	Factory owner and exporter
	Food	Food Packaging Expert- World Packaging Organization
	ICT	ICT expert- freelance
Egypt	Food	Peer to Peer
	Textile	Business to Business
	ICT	Virtual Private Network

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