



STATE OF PALESTINE
- PITS Syndicate -

Digital Transformation in Palestine

- The Future City of Rawabi -

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مستشاري الأمانة العامة للإسكان

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Introduction: Rawabi City

- Rawabi is the **first planned** city built for and by Palestinians in the West Bank.
- The idea of Rawabi was conceived in **2007**, excavation started in **2010** and construction started in **2012**.
- Rawabi is a high tech city with **6,000** housing units, housing a population of between **25,000** and **40,000** people, spread across six neighborhoods.



By May 2017, despite difficulties with flying Israeli checkpoints controlling the road to the city, 3,000 Palestinians had taken up residence there.

Introduction: Rawabi Location



Source: https://elpais.com/internacional/2015/09/14/actualidad/1442256863_699144.html

- **Rawabi is located as:**
 - ✓ 9 kilometers (5.6 mi) northwest of **Ramallah**,
 - ✓ 20 kilometers (12 mi) to the north of **Jerusalem**, and
 - ✓ 25 kilometers (16 mi) south of **Nablus**.
 - ✓ **Amman**, the capital of Jordan, is 70 kilometers (43 mi) to the east.
- On a clear day, it is possible to see the **Mediterranean Sea**, 40 kilometers (25 mi) to the west.
- The Palestinian National Authority did not need Israeli approval for construction since the land of Rawabi falls entirely within **Area 'A'**, which is **fully** under the **Palestinian control**.

Introduction: Construction Challenges

- Rawabi experienced **two major challenges** in its early years of construction:
 - **Road issue:** the only road available to connect Rawabi to other districts in West Bank is located in **Area 'C'**, meaning the need of obtaining a permit from the Israeli Authority to build or maintain the road and this permit should be renewed annually. Negotiating terms around the road **delayed the construction for around two years.**
 - **Water crisis:** the Israeli Authority delayed the delivery of water to Rawabi due to **one mile of water pipe** that crosses Area 'C'. This major challenge **delayed construction for over 18 months.**



Introduction: Rawabi Facilities

- Rawabi provides **different services** to its residents, including:
 - **Residential Neighborhood Features:** wide & tiled sidewalks and roads, pocket parks and green areas, trash rooms, smart irrigation system, etc.
 - **Buildings:** earthquake resistant, covered parking areas with elevator access, solar system, fire alert and gas detector systems, electricity generators, etc.
 - **Rawabi Commercial Center:** it is a national leisure and business destination. It includes the IT & Research Hub, high-tech modern offices, restaurants, markets, advanced Fiber Optic network, WiFi, Recreational areas, etc.



Q-Center
- Rawabi Commercial Center -

Introduction: Rawabi Facilities – Cont.

- **WaDina Park:** for sport and entertainment activities.
- **Rawabi English School:** the first Cambridge certified school in Palestine.
- **H-Clinic Rawabi Emergency Center:** provides full medical services to the residents of Rawabi and the surrounding communities of neighboring cities and villages.
- **Rawabi Tech Hub:** which currently plays a critical role in building a dynamic knowledge-based economy by supporting and developing micro companies and start-ups in the ICT sector.
- **Rawabi Institute for Training and Advancement:** aims to build technical and professional skillsets among Palestinian ICT graduates and professionals to equip them with the skills demanded by the local and international ICT markets.



Rawabi as a Green and Smart City

- Rawabi's goal is to become Palestine's **first truly green and smart city** through creating a replicable model for future cities that will improve the quality of life of residents and future generations.
- **Green spaces:** Rawabi public park, pocket parks and green areas between buildings, planted trees along all roads, etc.
- **Environmental Impact:** the excavated material, resulted from Rawabi construction, was transferred to Rawabi's seasonal wadi and terraced to create the Park and Amphitheater, preserving the wadi while preventing Rawabi's waste from polluting other areas. The landscape was reshaped without causing harm, skillfully converting Rawabi's potentially polluting excavated material into an environmentally responsible, socially beneficial resource.



Rawabi as a Green and Smart City – Cont.

- **Recycling:** sustainable and environmentally friendly methods as well as Well-defined ecological, environmental and socially responsible methods practiced internationally are used to maintain clean operations that pose no threat to the environment or to humans who live close to construction sites.
- **Water Recycling in the Stone-Cutting Factory:** Rawabi's water recycling system reduces the level of water consumption to less than 10% of the quantity required without reuse.
- **Stone Recycling:** Rawabi's developers are building the city with stone quarried from Rawabi hills, which allows them to use the surplus pebble-sized pieces to cover Rawabi's road retaining walls. Smaller particles are used to create the concrete.
- **Steel Recycling:** Small leftover pieces of steel used for construction are gathered up and sent back to steel factories to be melted back down to liquid form and reused in another larger rod or sheet.



Rawabi as a Smart and Green City: **Smart Digital Services**



- Rawabi provides different **smart digital services** to its residents, including:
 - Computerized **Aid** Facility Management Aid software.
 - Rawabi **application** for the city.
 - **Smart meters** to control water meters, and SCADA system to reduce water wastage.
 - Direct communication with owners and resident through **phone** application.
 - Optimized **energy consumption** (energy saving systems, lighting schedules).
 - Safe and healthy environment with an advanced technology and **CCTV** to reduce crime and security monitoring.

Rawabi as a Smart and Green City : Smart Digital Services – Cont.

- Rawabi provides different **smart digital services** to its residents, including:
 - Advanced **Fiber optic** network and high speed **WiFi**.
 - **Access control** for buildings, offices and facilities.
 - Preventive maintenance with **smart innovative techniques** to reduce damages and extend assets and properties life time.
 - **Green cars** for the operations.
 - Use of **Solar technology**.
 - **Smart irrigation** systems.
 - **Smart fire alert** and **gas** detector systems.



Rawabi in the time of COVID-19 Pandemic

- Rawabi has implemented a **series of solutions** to mitigate the impact of COVID-19 pandemic, including:
 - Appointed a **specialized team** to track, handle, and report on COVID-19 cases in a safe manner.
 - **AI-based Thermal Cameras** have been used to identify persons with fevers-like symptoms.
 - **Closed-Circuit Television networks (CCTVs)** have been utilized to follow and trace infected people movements.
 - Implement **social distancing measures**, such as restricting all meetings, canceling or postponing activities, and imposing suitable limits to prevent the virus from spreading.
 - **Teleworking** and flexible work hours modalities have been followed, including **online meetings** as well.



Source: <https://www.reuters.com/business/healthcare-pharmaceuticals/what-you-need-know-about-coronavirus-right-now-2021-09-30/>



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Digital Transformation

State of Palestine

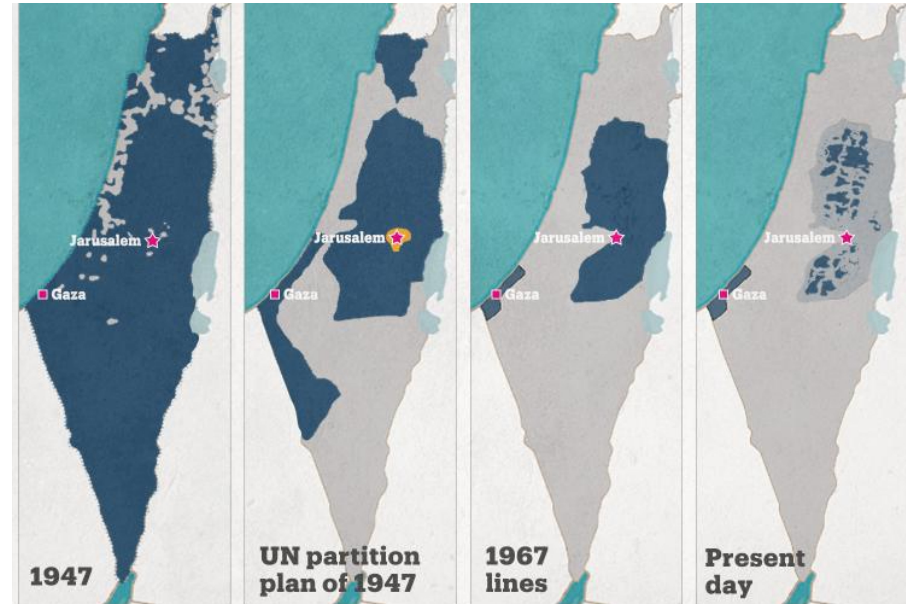
Challenges

Digital Transformation Challenges

Israeli Occupation

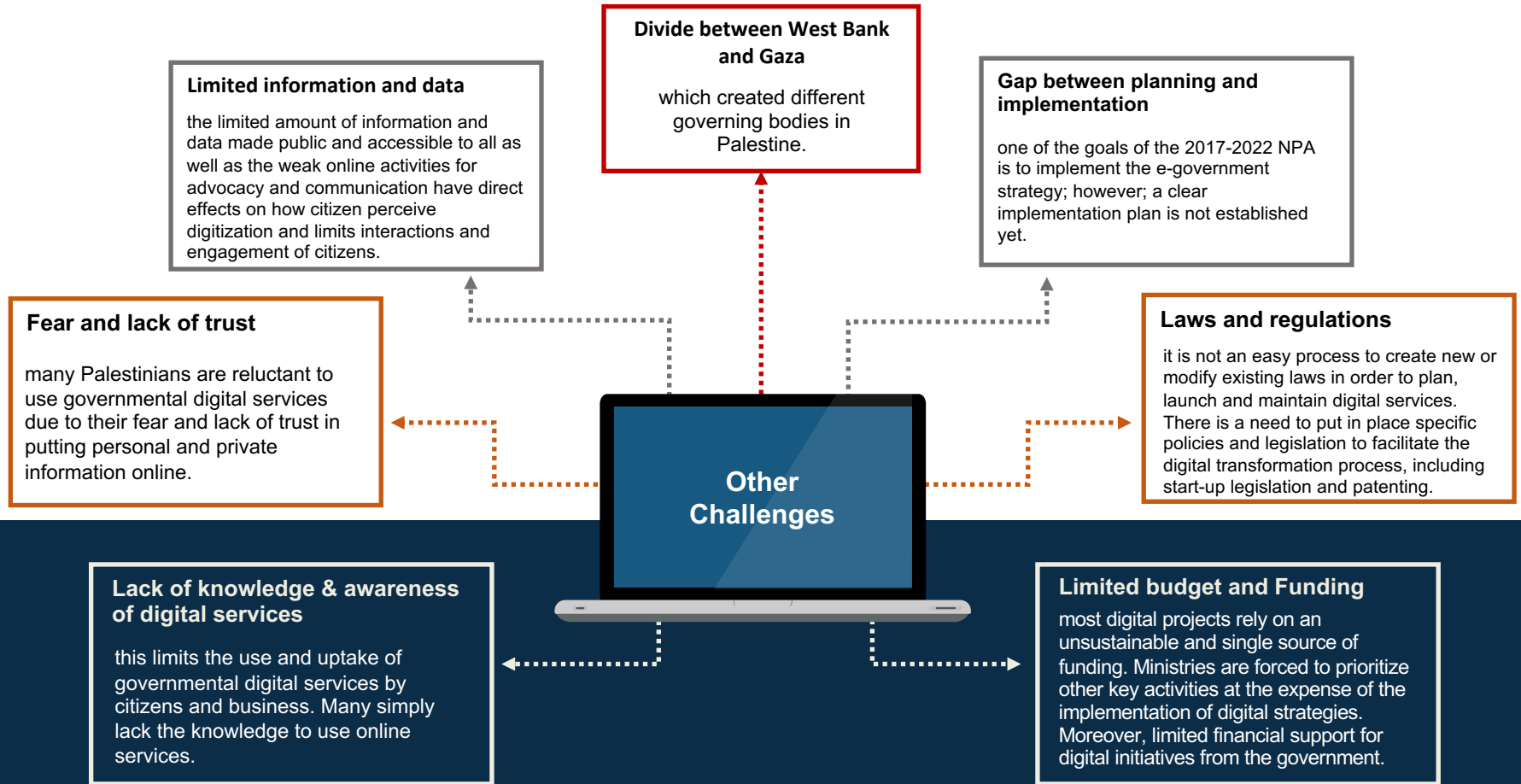
The imposed policy of isolation between different areas in Palestine affect achieving the digital transformation.

1. **West Bank:** isolation between different districts in West Bank (ex. land isolation).
2. **Control over Area C:** Israeli control over Area C, which resulted in poor digital infrastructure and services.
3. **East Jerusalem:** isolation of east Jerusalem from the rest of the occupied West Bank, which prevent any implementation of digital infrastructure and services by the Palestinian government in this area.
4. **Gaza Blockade:** the Israeli siege and blockade on Gaza Strip is a real barrier for implementing any digital transformation project (ex. 3G/2G mobile services).
5. **Control over borders:** restrictions placed by the Israeli border control to prevent importing digital and telecom equipment to Palestinian areas (ex. firewalls and routers).



Source: <https://www.trtworld.com/middle-east/icc-clears-way-for-probe-in-israeli-occupied-palestinian-territories-43937>

Digital Transformation Challenges – Cont.



Conclusion

- ✓ Rawabi is the first **Greenfield city**, established from scratch, by Palestinians.
- ✓ The city has been developed to be a **green** and a **smart** one through using sustainable and smart techniques for its construction.
- ✓ It provides a series of **smart digital solutions** to its residents to improve their quality of life.
- ✓ **Digital transformation**, specifically the e-government one, has been identified as a national priority in the State of Palestine since 2005.
- ✓ Even though major steps to achieve this transformation have been taken at national and local levels, the progress made **did not produce a holistic transformation** that would improve the citizen's experience and make service delivery robust against external challenges.
- ✓ The digital transformation that puts the citizen at the center **requires collaboration** between different government entities, the private sector, and international organizations.

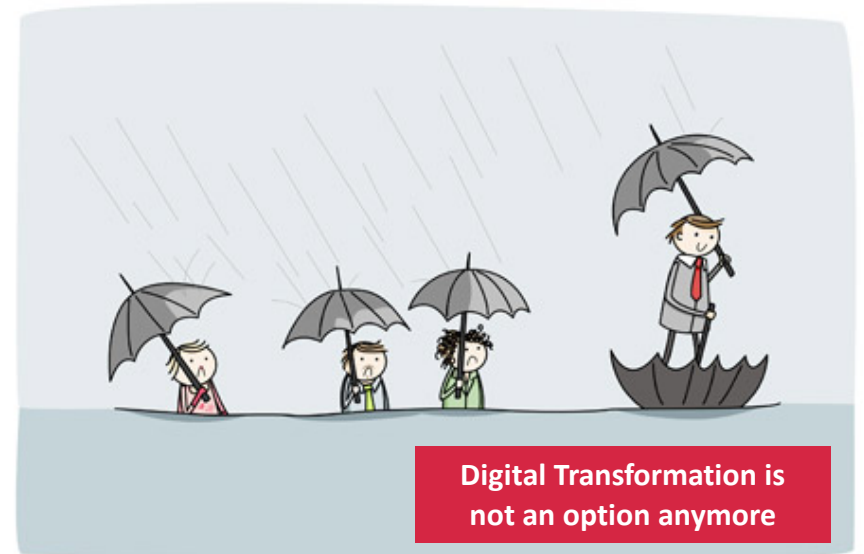


Image only: <https://innovationmanagement.se/2010/12/15/forget-your-customers-and-develop-innovative-business-models/>



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THANK YOU

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