



UNIVERSITY FERNANDO PESSOA

***Knowledge Management and Use of ICT's for SME's in a knowledge
base society to attain Sustainable Growth***

**Doctoral programme Information Science,
Systems, Technology and Information Management**

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Some Important Terms & Keywords:

- SME – Small & Medium Enterprises
- ICT – Information Communication Technology
- Digital Transformation
- Knowledge Based Society
- Growth Factors
- USE of ICT's to Achieve Growth
- Problems
- Future Recommendations

SME – Small & Medium Enterprise.

- Definition: Depends on the number of Employees and Revenue generated by the business.
- TURKEY: MICRO, SMALL & MEDIUM Enterprises. Source: Ministry of Industry & Technology.

Type	Employees	Revenue (Million TL)	Net Sales (Million TL)
Micro	<10	≤3	≤3
Small	<50	≤25	≤25
Medium	<250	≤125	≤125

SME Statistics (Turkey: 2018, Ministry of Industry & Technology)

Type	Number	
Total Enterprises	3.652.521 3.6 million	
Total SME	3.645.469	
	Number	<i>Percentage (In SMEs)</i>
Micro	3.420.580	93,65 %
Small	193.304	5,29 %
Medium	32.585	0,89 %

The Share of SMEs in Turkish Economy.

Turkey: 2018, Ministry of Industry & Technology	
<i>Total (number of) enterprises</i>	%99,83
<i>Total employment</i>	%72,7
<i>Total value added</i>	%50,6
<i>Total sales</i>	%61,7
<i>Total investments</i>	%58,3
<i>Total exports</i>	%55,1
<i>R&D expenditures</i>	%35,3

TURKISH Economic VISION 2023

- Become one of the top ten world economies by 2023.
- Gross domestic product of \$1 trillion by 2014 (*Assessment*: \$0.934 trillion in 2014) and of \$2 trillion by 2023
- Per capita income of \$25,000 by 2023
- Increase annual Turkish exports to \$500 billion by 2023
- Foreign trade volume of \$1 trillion by 2023
- Increase the employment rate by 10 points to a working population of 30 million by 2023
- Reduce the unemployment rate to 5 percent by 2023
- Addition of income through applying duty on ocean trade through Straits of Bosphorus and Dardanelles.
- By GDP currently TURKEY is 18th in the WORLD.

ICT – Information Communication Technology

- **Information:**

Processed & meaning full data is refer to information

- **Communication:**

Sending or receiving information between two and more people through speaking, writing, or using some other medium

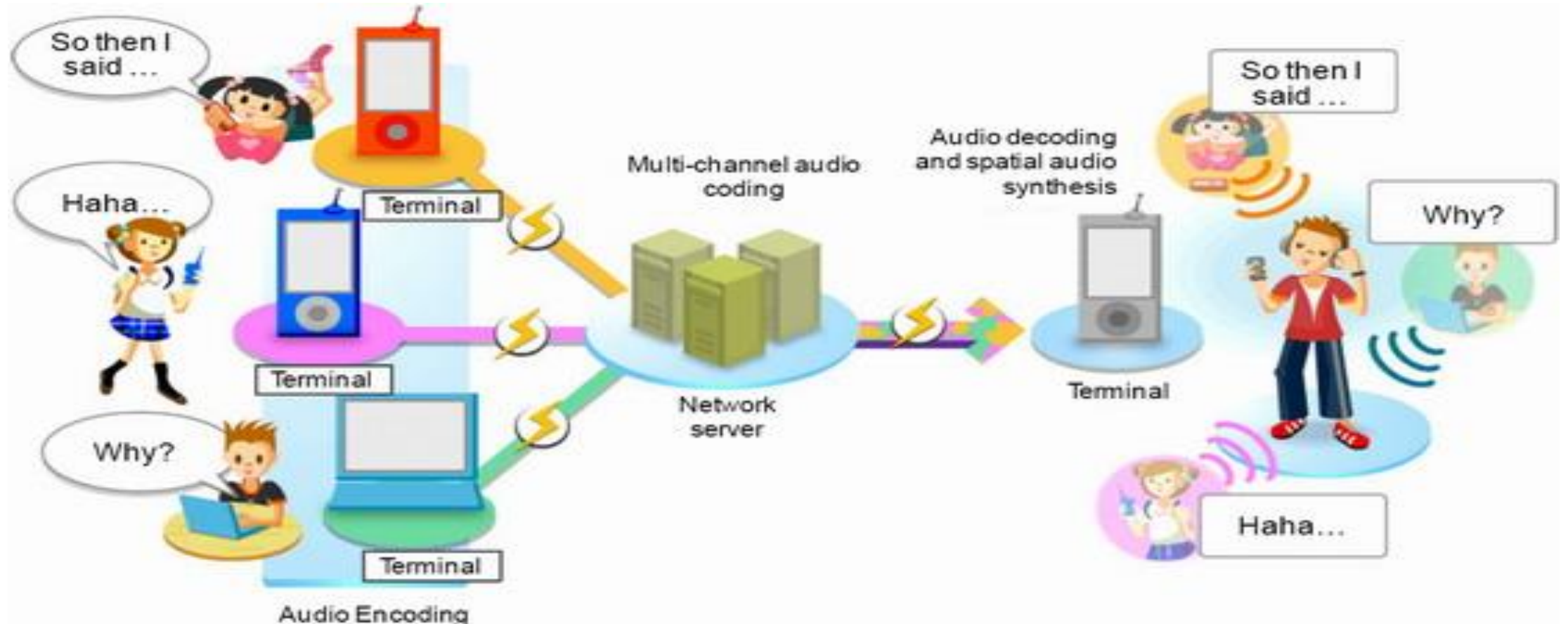
- **Technology:**

Technology is the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation

Examples of ICT's:

Communication Devices or Software Applications.

TV, Radio, Cell phones, computers, networks hardware & software's, satellite systems, video conferencing.



ICT's Software Examples:

Examples of ICT



Digital Transformation:

- Digital Transformation is the use of new, fast and frequently changing **digital technology** to solve problems. It is about transforming processes that were non digital or manual to digital processes
- **Digital Technologies** are electronic tools, systems, devices and resources that generate, store or process data. Well known examples include social media, online games, multimedia and mobile phones

Growth Factors (source):



Use of ICT's to Increase Growth:

- Mobile Devices
- We can use Social Media
- Facebook, Instagram, YouTube, Twitter, Whatsapp/ Viber groups
- Digital Marketing
- SEO and PPC Marketing
- Local & International Seminars and Exhibitions
- Video adds on T.V.

Challenge: SME's and the Digital response



*The **fight-or-flight response** (also called **hyperarousal** or the **acute stress response**) is a physiological reaction that occurs in response to a perceived harmful event, attack, or threat to survival. It was first described by Walter Bradford Cannon (1932)*

SMEs at risk of losing out in high-stakes Innovation Wars

<https://www.straitstimes.com/opinion/smes-at-risk-of-losing-out-in-high-stakes-innovation-wars>

More Challenges to SME's

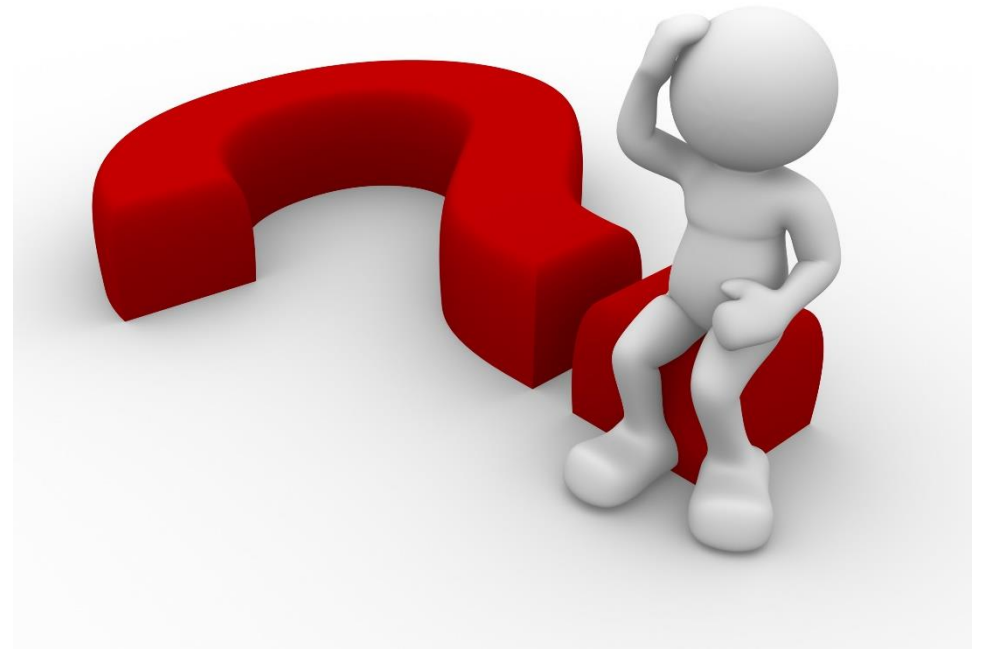
- **SMEs** face **challenges** from increased competition, the ability to adapt to rapidly changing market demand, technological change, and capacity constraints relating to knowledge, innovation, and creativity.
- Micro SME's selling Mobile phones and creating mobile phone accessories know what competition is and how the industry is rapidly changing day by day.

Turkey supports SMEs against effects of COVID-19.

- Ministry of Industry & Trade Turkey announced that SMEs Development Organization of Turkey (KOSGEB) will give loans to SME's to fight survival in recent Covid-19 situation.
- 1 Million Euros dedicated.
- Extra support for Health care SME producers like gloves, masks, sanitizers etc.

Problems:

1. **Language Barrier:** where many Micro SME Owners don't speak or understand English resulting in trade activities only in boundaries of TURKEY
2. Further the Micro business model needed to be **re-designed** to adapt the use of Digital transformation & ICT's in Business
3. Affordability as Digital transformation is a **costly** thing to adopt



Future Recommendations:

- Digital Transformation is (can be) the solution:
 - Cultural change
 - Start from small
 - Be specific & Productive
 - Wise selection of technology
 - Seek International help
 - Cost Effective
 - Information gathering after implementation