

Careers of the Future and Challenges to Overcome

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Session Synopsis

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Session Synopsis

Nowadays, there is a huge concern whether today's careers will be available in 10 years. This is due to the rapid technological development which dictates a remarkable transformation in tomorrow's labour market. In this session, participants will have an overview on careers which are expected to vanish or to be created. Additionally, challenges and suggested solutions will be presented.

Learning Outcomes

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Learning Outcomes

- ▶ Explore current jobs which are expected to disappear in future
- ▶ Explore future careers which are predicted to exist
- ▶ Identify challenges and solutions from higher education institutions' perspective

About ADVETI

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Learning Outcomes

The vocational education is essential in order to achieve a sustainable economy which supports the Economic Vision of Abu Dhabi 2030. Technical and Vocational Education and Training (TVET) system focuses on building a vocational system to graduate UAE nationals with high quality in technical and vocational skills who are ready to enter the work force, which will enhance productivity.

- ▶ Est. in 2007
- ▶ Initiated by Abu Dhabi Government
- ▶ 5 Institutions
- ▶ Umbrella of ACTVET
- ▶ Technical & Vocational
- ▶ Accredited - CAA & NQA
- ▶ 92% of Graduates are UAE Nationals



Endangered Jobs

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Endangered Jobs

▶ Business Administrative Jobs

- ▶ Data Entry
- ▶ Customer Service
- ▶ Librarian
- ▶ Account Manager
- ▶ Bank Teller and Representatives
- ▶ Post Staff
- ▶ Tel- Marketing Staff
- ▶ Travel Agent
- ▶ Cashiers
- ▶ Interpreters and Translators
- ▶ Financial Analysts
- ▶ Word Processor/Typist



U Bank lunched in UAE Proof that the future of banking is finally here, 2018

Source: Various, refer to the references section

Endangered Jobs

▶ Transportation Jobs

- ▶ Drivers
- ▶ Pilots
- ▶ Fuel Supplier
- ▶ Traffic Controller
- ▶ Traffic cops
- ▶ Rental car personnel
- ▶ Mechanics

▶ Media Jobs

- ▶ Presenters and Broadcasters
- ▶ Editors

▶ Medical Jobs

- ▶ Surgeons in some specialties



World's first AI presenter unveiled in
China, Nov 2018

Source: Various, refer to the references section

Endangered Jobs

▶ Printing and Publishing Jobs

- ▶ Newspaper and magazine publishers
- ▶ Factory workers

▶ Sport Jobs

- ▶ Sports Referees and Umpires

▶ Educational Jobs

- ▶ Teachers

▶ Agriculture Jobs

- ▶ Crop monitors/consultants
- ▶ Spraying services
- ▶ Farmers and Ranchers
- ▶ Fishermen



Video Assistant Referee (VAR) system
being utilized in top European leagues

Source: Various, refer to the references section

Endangered Jobs

- ▶ **Construction Jobs**
 - ▶ Construction workers
- ▶ **Manufacturing Jobs**
 - ▶ Workers
 - ▶ Freight/Stock
- ▶ **Social Media Jobs**
 - ▶ Social media professionals
- ▶ **and many more.....**



Construction industry goes robotic,
Sep 2018

Source: Various, refer to the references section

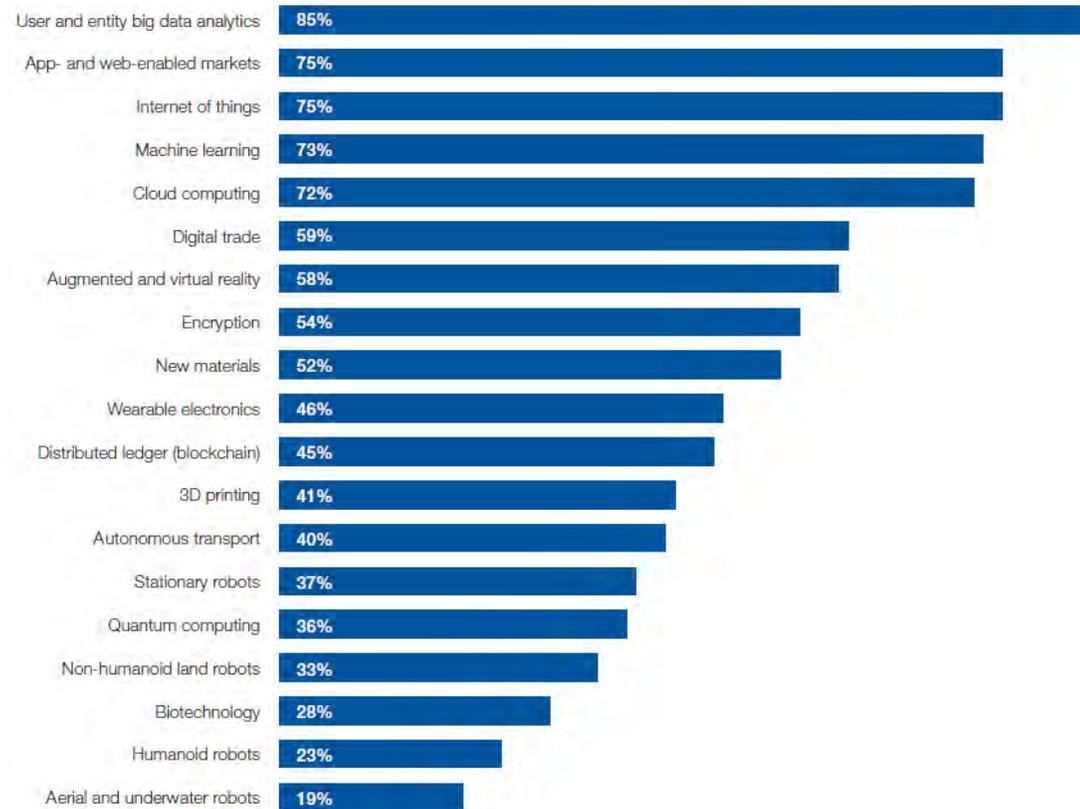
Future Careers

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Future Careers

Figure 2: Technologies by proportion of companies likely to adopt them by 2022 (projected)



Source: Future of Jobs Survey 2018, World Economic Forum.

Future Careers

What will the future look like?

In the most distant future; we'll see cities in space...
but in the near future, we'll see cities that'll have their own spaceports. Space will blossom into a more everyday affair.

Alan Stern
Principal Investigator,
New Horizons Mission

Source: Future Foresight, MBR Center for Accelerated Research, 2018

Future Careers

What will the future look like?

In the coming years, cars will drop you off and go on their way. Since they are autonomous, they don't rubberneck. They don't get into accidents. They don't stop to chat with a friend. They just go where they're supposed to go.

Ari Teman
Co-Founder, FutureNYC

Source: Future Foresight, MBR Center for Accelerated Research, 2018

Future Careers

What will the future look like?

The next 20 to 30 years will be all about quality of life and learning to extend biological processes...wear and tear stuff. After that, we will start getting into discussions of extending the human lifespan.

Arthur Caplan
Founding Director of the
Division of Medical Ethics,
New York University

Source: Future Foresight, MBR Center for Accelerated Research, 2018

Future Careers

What will the future look like?

In future cities, we will control all devices using renewable energy, and we'll make it far more efficient. Every street would know you're walking down it, and the lights come on only if you're there.

Source: Future Foresight, MBR Center for Accelerated Research, 2018

Laurence Kemball-Cook
CEO, Pavegen

Future Careers

▶ IT, Big Data & Cyber Security

- ▶ Big Data Wranglers
- ▶ Big Data Detective
- ▶ Big Data Ethics specialist
- ▶ Big Data brokers
- ▶ Cyber City Analyst
- ▶ Cyber Attack Agent
- ▶ Cyber Calamity Forecaster
- ▶ Voice UX Designer
- ▶ Data Trash Engineers



Source: Various, refer to the references section

Future Careers

▶ **Artificial Intelligence (AI) and Robotics**

- ▶ Artificial Intelligence Engineer
- ▶ AI programming specialists
- ▶ AI Application designer
- ▶ AI Maintenance specialist
- ▶ Head of Machine Personality Design
- ▶ Machine Risk Officer
- ▶ Algorithm Bias Auditor
- ▶ Quantum Machine Learning Analyst
- ▶ Robots Designer
- ▶ Robots Maintenance Technician
- ▶ Robots trainer
- ▶ Robots consultants



Source: Various, refer to the references section

Future Careers

▶ Transportation

- ▶ Flying Car Developer
- ▶ Flying Car Engineers
- ▶ Flying Car Maintenance Technicians
- ▶ Smart Roads Engineers and Analysts
- ▶ Unmanned Aircraft System Controller
- ▶ Unmanned Aircraft System Engineers and programmers
- ▶ Unmanned Aircraft System Technicians
- ▶ Hyperloop designers and Technicians
- ▶ Hyperloop planners, analysts, operators and inspectors
- ▶ Space trips planners
- ▶ Space Traffic Controller
- ▶ Commercial Space Pilot
- ▶ Experts in reducing the impact of space visits
- ▶ Passengers trips enhancements experiences Specialists

Source: Various, refer to the references section



Future Careers

▶ Virtual Reality and Augmented Reality

- ▶ Augmented Reality Journey Builder
- ▶ Virtual Identity Defender
- ▶ Virtual reality designer
- ▶ VR producers
- ▶ VR trainers
- ▶ VR agents
- ▶ VR therapists
- ▶ VR Arcade Manager



Source: Various, refer to the references section

Future Careers

▶ Health and Genetic Engineering

- ▶ Anti-Aging Specialist
- ▶ Personal Memory Curator
- ▶ Memory Surgeon
- ▶ AI-Assisted Healthcare Technician
- ▶ Specialists – Brain nerve stimulation
- ▶ Genomic Portfolio Director
- ▶ Genetic Diversity Officer
- ▶ Genetic Information analyst
- ▶ Generative Designer
- ▶ Juvenile Cybercrime Rehabilitation Counselor
- ▶ Joy Adjutant
- ▶ Nano-medic
- ▶ Elderly wellness consultant



Source: Various, refer to the references section

Future Careers

▶ **Blockchain**

- ▶ Blockchain engineers
- ▶ Blockchain designers
- ▶ Blockchain legalist
- ▶ Blockchain development managers
- ▶ Blockchain Analyst
- ▶ Blockchain business developer
- ▶ Blockchain Ethics Manager

▶ **Encrypted digital currencies**

- ▶ Digital currencies legislator
- ▶ Digital currencies brokers
- ▶ Digital currencies performance analyst



Source: Various, refer to the references section

Future Careers

▶ 3D Printing

- ▶ 3D products technicians
- ▶ 3D products designers
- ▶ 3D products quality assurance specialist
- ▶ 3D printing machine technicians and designers
- ▶ Digital Architects
- ▶ 3D printing prostheses Specialist
- ▶ 3D printing reconstructive surgery specialist
- ▶ Organ Creator



Source: Various, refer to the references section

Future Careers

▶ **Internet of Things (IoT)**

- ▶ Smart system analysts and Designer
- ▶ Smart buildings, homes and clothes Designer
- ▶ Smart Home Design Manager
- ▶ Personal Internet of Things (IoT) Security Repair Person
- ▶ Smart system Risk Manager
- ▶ Master of Edge Computing



Future Careers

▶ Another areas

- ▶ Alternative Energy
- ▶ Climate change
- ▶ Nuclear fusion
- ▶ Space Mining
- ▶ Farming
- ▶ Quantum computing
- ▶ Food



▶ and many more....

Source: Various, refer to the references section

Challenges

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Challenges

- ▶ Most of the Majors required in the future are not developed yet
- ▶ The changes in labor market, technology and education are not intersecting
- ▶ Some careers are endangered when students reach their senior year
- ▶ Developing Qualifications are difficult if the jobs are not invented yet
- ▶ Teachers and students are not able to coop with the change
- ▶ Career Counselors doesn't know the labor market even in the next year
- ▶ Careers assessment tools are not assessing skills or careers based on future demands and labor market
- ▶ Some of the companies may change their 5 years recruitment plan in one year, such as factories

Suggested Solutions

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Suggested Solutions

- ▶ Transform the current traditional educational system, i.e. shorter curriculum development process (less than 6 months), shorter study period (less than 2 years), and faster accreditation process
- ▶ There should be collaboration between government, academia and industry to make sure that the youth are ready for work
- ▶ As educators and career counselors we should prepare our students to adapt the change
- ▶ Students should be open-minded for career change and have a novel and adaptive thinking in addition to emotional and social intelligence
- ▶ Developing new Careers assessment tools to include future skills and occupations

Summary

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Summary

- ▶ Labor market is changing rapidly due to the rapid technological development
- ▶ Today's career may not be available tomorrow
- ▶ The collected and predicted jobs in 2030 may be even endangered by then
- ▶ There should be collaboration between government, academia and industry to make sure that the youth are ready for work
- ▶ As educators and career counselors we should prepare our students to adapt the change
- ▶ Students should be open-minded for career change and have a novel and adaptive thinking in addition to emotional and social intelligence.

References

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Q & A

Shukran!

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