

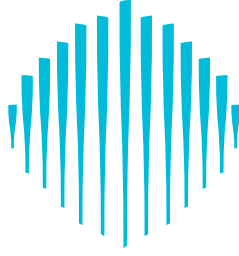


القمة WORLD
العالمية GOVERNMENT
للحكومات SUMMIT

PROCEEDINGS REPORT



2017



القمة WORLD
العالمية GOVERNMENT
للحكومات SUMMIT



His Highness Sheikh Khalifa bin Zayed Al Nahyan

President of the United Arab Emirates



His Highness Sheikh Mohammed bin Rashid Al Maktoum

Vice President & Prime Minister of the United Arab Emirates, Ruler of Dubai



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World Government Summit 2017

The World Government Summit 2017, held under the patronage of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates, Ruler of Dubai, witnessed more than 4,000 global public and private sector officials and leaders from over 150 countries and seven renowned international organisations gather in Dubai to discuss the challenges and opportunities faced by the world today.

Now in its fifth edition, the World Government Summit is an international knowledge exchange platform at the intersection of government, futurism, technology and innovation. Each year, government officials, policy-makers, thought leaders and private sector trailblazers come together to explore the future of government in the coming decades led by the advancements of mankind.

The Summit is an opportunity for governments and organisations to showcase cutting-edge innovations, the latest trends in best practice and groundbreaking smart solutions to provoke discussion and inspire creativity. The 2017 edition hosted plenary sessions, workshops, discussion panels and more, centred around themes such as happiness, climate change, youth and today's unique challenges and opportunities.

Scan the Zapper codes found throughout this book using the WGS application for full session videos, event information, social media links and more.

The Summit In Numbers



190+

Speakers



150+

Interactive sessions & activities



4,000+

Attendees



150+

Participating countries



17,000+

Articles, reports & media exposures



200+

Media organisations



19m+

YouTube views



8bn+

Twitter impressions



350,000+

Social media followers



HH Sheikh Mohammed bin Rashid Al Maktoum

Vice President & Prime Minister of the United Arab Emirates, Ruler of Dubai

How To Reignite The Region's Development

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I am optimistic because I believe people create civilisations, develop economies and drive prosperity

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Arab nations should empower their youth, asserted His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates (UAE), Ruler of Dubai, in a question and answer session on opportunities and challenges facing the Arab region. "Young people have positivity and new ideas," he said. "We need to make them leaders."

Sheikh Mohammed used inspiring illustrations and thoughtful advice to demonstrate how he and fellow leaders in the UAE are moving beyond rhetoric to lead their citizens by example.

Arab nations must be open to all parts of the world, accompany plans with actions, and not delay moving forward, he said. In answering a range of questions submitted to the Summit via social media and other channels, Sheikh Mohammed addressed several contentious Arab issues.

Change, Or You Will Be Changed

Sheikh Mohammed began by reiterating the rallying call which he gave fellow Arab leaders over a decade ago: "Change, or you will be changed." At the time, it had left some of those who heard it a bit uneasy – but it was made clear throughout the session that it has proven true in light of the events occurring across the region over the last several years.

Among the topics Sheikh Mohammed touched on during this question and answer session, 10 stood out for their clear advice and profound impact.

True Leadership

In Sheikh Mohammed's opinion, Arab leaders need to look beyond advisers and consultants to form their own unique views and opinions. If they fail to do so, they may not ever see the big picture. He also exhorted leaders to act now, pointing out that the fact time does not stand still has been a constant motivation to him and other leaders of the UAE.

Corruption

Responding to a query about a Dubai-led project that had withdrawn from

Libya during a previous regime, Sheikh Mohammed acknowledged that corruption has hindered some parts of the Arab region, just as it has elsewhere in the world. Pledging that he himself never tolerates corruption, His Highness said that all leaders should lead by example.

Conspiracy

Although some people believe other parts of the world conspire against Arab nations, Sheikh Mohammed dismissed these claims. Conspiracy theories have existed for centuries, and will continue for centuries more. They affect every part of the world, not just Arab states, Sheikh Mohammed reminded his audience, and little is gained by using conspiracies as an excuse to stop striving towards goals.

The Importance Of Wealth

One question posed to Sheikh Mohammed suggested that perhaps countries like the UAE have succeeded because of their small size and rich natural resources. He disagreed, however, pointing out that these factors are far less important than the people themselves, as they are the real wealth



SHEIKH MOHAMMED'S ADVICE TO ARAB GOVERNMENTS

- Be open and receptive to all parts of the world
- Plans are useless unless accompanied by action
- Do not resist change
- Lead by example
- Empower the region's youth
- Look beyond advisers and consultants and form unique opinions
- Support and encourage women to pursue careers in both the public and private sectors

of a nation. Sheikh Mohammed suggested the delegates look to China, Japan and South Korea as countries that have succeeded regardless of population size and availability of natural resources. He also offered leaders the chance to visit Dubai, saying: "We don't claim to be perfect, but our story is available to anyone who wants to learn."

The Role Of Women

Citing a report that only 17% of women in the Arab region are employed, Sheikh Mohammed listed the ways the UAE is setting a path for others to follow in order to encourage women to pursue careers. In the UAE, 70% to 75% of all graduates are women. Already a third of the cabinet is female, and he expects this to soon reach 50%. "We have women worth a thousand men," he said to roaring applause.

The Media

Returning to his opening theme – that change happens adversely to those who don't embrace it proactively – Sheikh Mohammed urged traditional media outlets not to engage in insults and incitement. In his eyes, the primary aim of the media is to inform and enlighten the

public through truthful coverage and content. Those that fail to do so will increasingly be left behind by social media.

Relations With The United States

Sheikh Mohammed urged Arab nations not to fixate on the individual who holds the office of president, but instead to focus on the broader implications of a relationship with the United States as a country. "We build our relationships with countries and governments, not with individuals," he explained.

The Arab Common Market, Arab League & GCC

Sheikh Mohammed said he sees no future for the Arab Common Market in a modern, open world.

"It's an outdated dream – we're in 2017, and the world has changed," he said. Instead, he urged Arab states to be receptive to countries around the globe, not just their neighbours.

He also encouraged the Arab League to unite and invited it to set up an operation in the UAE so that Arab youth could come and learn to be the leaders of tomorrow.

Finally, he suggested that the Gulf Cooperation Council (GCC) was on the

cusp of a more agile and impactful era, set to achieve more in the next four years than it has in the past 40.

Terrorism

Sheikh Mohammed was clear – terror attacks have no place in Islam. "Their vision of Islam is wrong," he stated unequivocally. "Islam is tolerant and loving, and it brings people together."

The Value Of Young People

Undoubtedly the overriding message of his session, Sheikh Mohammed returned regularly to the potential of young people, urging fellow leaders to devote resources to empowering them now.

He described how he convinced colleagues that installing a young minister on the cabinet, who would bring innovative thinking rather than just experienced advice, was vital. As a result, Shamma bint Suhail Faris Al Mazrui, then aged 22, was appointed the UAE's Minister of State for Youth Affairs.

Citizens are capable of anything, he said, including running the economy and managing resources.

"Building citizens in this way is the UAE's greatest achievement."

**HE Shinzo Abe**

Prime Minister of the State of Japan

Main Address Of The State Of Japan

// It is a critical role for governments: to use diversity to empower society

//

Finding ways for people of different identities, cultures and traditions to co-exist is one of the most vital issues facing society today, according to His Excellency Shinzo Abe, Prime Minister of the State of Japan, who added that the huge potential such diversity brings is also one of the world's greatest opportunities.

In his main address as leader of the World Government Summit 2017 guest country, Abe made several observations on diversity, noting in particular the strides made in tolerance and diversity by the Summit's host country, the United Arab Emirates (UAE). He also outlined a key initiative in his own country, which aims to create a society where everyone can play an active role.

Putting Diversity On The Agenda

Across the world, respect for diversity is required now like never before, said Abe, who is one of the longest-serving Prime Ministers in Japanese history, having led the nation across three terms.

He explained how Japan, under his leadership, is now in the process of building a growth economy based on innovation – and that diversity is essential to nurturing such innovation and to seeking out the new ideas that it generates.

Engaging All Citizens

Associated initiatives in Japan include an endeavour called 'Promoting the Dynamic Engagement of All Citizens', which was launched in 2015. This groundbreaking programme aims to build a new economic and social system centred around diversity and has a national council with a number of strands. These include:

- **Increasing the active participation of women in society**
- **Promoting employment opportunities for the elderly**

Speaking at the programme's inauguration two years ago, Abe announced the vision for the creation of a society where everyone can play an active role, including the young, the elderly, women, men, people with disabilities, people fighting an illness and people who have experienced a major failure. This was approached, Abe said at the time, through the elimination of all policies that stand in the way of the country achieving this goal.



Speaking at the World Government Summit, Abe acknowledged that many observers had questioned Japan's ability to deliver on its dynamic engagement plan, given the country's decreasing birth rate and ageing population. It is, however, his belief that by unleashing the maximum potential of various groups in society, those factors will be overcome. He claimed significant progress has already been made, with the national council holding several meetings a year to advance policies and share updates.

Looking To The UAE

Abe also recalled a previous visit to Dubai, back in 2013, when he had been impressed by the way people of all religions and backgrounds lived and worked together.

"From ancient times, the Middle East has prospered thanks to its diversity of people, religions and ethnicities," he observed. "Throughout the centuries, the spirit of tolerance and moderation has been fostered here, bringing about peace and prosperity."

In Abe's eyes, the UAE continues to occupy the role of a world pioneer in inclusive diversity – with recent measures such as the appointment of Ministers for Tolerance and Happiness to the fore. He described the nation as 'an oasis for tolerance', for which he has great personal admiration.

Towards 2020: A Benchmark For Diversity

Abe concluded his address by drawing delegates' attention to 2020: a year when Tokyo, Japan will host the 32nd Olympic and Paralympic Games, and Dubai will host the World Expo – the first to take place in the Middle East, Africa and South Asia region.

This is, to him, a great opportunity for the two nations to demonstrably continue their common drive to put diversity at the top of the global agenda.

"Let us together show the world that societies are made vital through diversity and a spirit of tolerance," he finished by saying. "And that it is through diversity that peace and prosperity will prevail."

KEY POINTS

- **The world demands respect for diversity now like never before**
- **Diversity is essential to nurturing innovation and new ideas**
- **Inclusive diversity should be at the top of the global agenda**

**HE Kentaro Sonoura**

Minister of State for Foreign Affairs of the State of Japan

Main Address Of The Guest Country

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There should be no legal or social barriers that hinder the intellectual curiosity of inventors

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The most important role of a government is to invest in the future, particularly in the fields of education and innovation, said His Excellency Kentaro Sonoura, Minister of State for Foreign Affairs of Japan.

Ensuring equal educational opportunities for all citizens should be every government's highest priority, advised Sonoura. He urged them to incorporate both traditional values and an early emphasis on modern innovations into their nations' curricula.

Illustrating the effectiveness of this approach, Sonoura described how Japan rose up from the ravages of World War II to become an economic superpower by investing in inclusive education and promoting technological advancement. Sonoura stressed the importance of creating a legal and social environment that stimulates innovation, especially in the wake of continual advances in fields like artificial intelligence (AI).

Combining Technology & Tradition

While modern technological education is key to the future, imparting traditional values is equally vital, Sonoura reminded the audience. He cited the Japanese education system as an example, as it places a unique emphasis on civic responsibility based on self-discipline and mutual cooperation – values that are firmly rooted in Japanese tradition.

"This tradition originates from the Samurai ethos, whose virtues include courage, justice, propriety, honour and loyalty; as well as from Confucianism, which teaches devotion to parents, family and friends."

To reinforce these traditional values, students are encouraged to take responsibility for the cleanliness of their schools. Additionally, he explained, morals and ethics, such as respecting the elderly, are part of the curriculum.

Japan places significant emphasis on physical training in schools as well. In addition to keeping students active and healthy, it also teaches them the value of cooperation – an indispensable part of innovation, particularly in the field of science and technology, Sonoura said.

Education For All

Opening up education to all citizens was key in elevating Japan to a position as one of the world's main economic players, Sonoura pointed out, despite the devastating setbacks of war.

"Japan maintained the principle of inclusive education and I am convinced it was one of the reasons for the rapid recovery from the war and its aftermath. This so-called miracle was thanks to the government of Japan's emphasis on education for all," he said.

Japan has a long history of providing education for all citizens, and Sonoura highlighted the country's commitment to continuing this tradition by expanding scholarships so that everyone has the opportunity to realise their dreams regardless of their material wealth or social status.

Eliminating Barriers To Innovation

Governments looking to the future must eliminate roadblocks to innovation to create an environment that nurtures scientific advancement, he advised, again citing Japan as an example. The country has produced 16 Nobel laureates in the field of science in this century alone.



"The government must dismantle barriers that interfere with innovation through steps such as increasing research and development, investment and implementing regulatory reform," he explained.

JAPAN'S EXAMPLE

The minister illustrated a few ways in which governments can eliminate obstacles to innovation by highlighting some of the steps his country is taking across three different sectors.

1. Medicine

Japan will accelerate the development of new drugs and treatment methods through the use of big data, or data sets that are too large or complex for traditional processing software, to analyse massive amounts of medical information at once.

2. Transport

Japan has established designated areas for the private sector to freely conduct research and testing for automated driving powered by AI. The spread of automated driving,

Sonoura claimed, will lead to a safer society with fewer traffic accidents.

3. Energy

Japan aims to create a society that is fuelled by hydrogen energy. Sonoura posited that this would be critical for energy security as it would reduce emissions, thereby helping to address global warming. Describing the development of a robust hydrogen industry, he said: "The world's first-ever hydrogen bus, nationwide hydrogen stations, electricity supplied by hydrogen-power generation will all be hallmarks of this hydrogen energy society."

Artificial Intelligence & The Internet Of Things

Sonoura offered some insight into Japan's growth strategy, which promotes industry applications of AI, robotics, big data and the internet of things (IoT), which refers to the network of internet-connected objects – from phones and cars to kitchen appliances – that are able to send and receive data.

All of the country's factories and shops will eventually be connected through the IoT, Sonoura said, which will lead to the creation of new business models and services tailored to individuals.

Japan has already established a special unit for new technology and has begun developing human resources, including the introduction of computer programming education in primary and secondary schools, Sonoura added.

SONOURA'S ADVICE TO GOVERNMENTS

- **The most important role of a government is to invest in its country's future**
- **Ensuring equal educational opportunities for all citizens needs to be every government's highest priority**
- **Education systems should combine an early emphasis on modern innovations with teaching traditional values**
- **Governments must eliminate roadblocks to innovation to create an environment that nurtures scientific advancement**



HH Sheikh Saif bin Zayed Al Nahyan

Deputy Prime Minister & Minister of Interior of the United Arab Emirates

Nation's Sustainability

// The key objective is to achieve a sustainable country, not just sustainability of one sector

//

Instilling moral values and ethics among people is essential to combatting hatred and terrorism, and to maintaining a nation's sustainability. His Highness Sheikh Saif bin Zayed Al Nahyan, the Deputy Prime Minister and Minister of Interior of the United Arab Emirates (UAE), said in his inspiring speech to the Summit. He urged people to rediscover their cultural roots and combine them with modern, open ideas in order to create a better tomorrow.

"Ethics are the key pillar of both the development and collapse of civilisations; the demise of ethics spells the demise of civilisations," asserted Sheikh Saif.

The UAE's sustainability comes from its religion, culture, heritage and history. He stressed that these values were reinforced by the late Father of the Nation, Sheikh Zayed bin Sultan Al Nahyan, who "created a balance

between traditions, openness and the spirit of teamwork".

Sheikh Saif pointed out that the current leadership of the UAE has consolidated these values by establishing ministries dedicated to happiness, tolerance and the youth, and by issuing a charter entitled *Values & Behaviors of the Emirati Citizen*, which describes how one can be an upstanding Emirati citizen, as well as the duties of both the individual and society so that everyone may coexist in peace.

The Search For Sustainability

Sheikh Saif explained that he found the meaning of sustainability in a variety of places:

1. Heritage

He highlighted the late Sheikh Zayed's interest in preserving history and sustainability as he recalled an incident in the 1980s when the UAE's founding father and his sons stumbled upon the remains of a church on one of their desert trips. He used this archaeological discovery as an example of the complexity of the region, its long cultural heritage and its long-standing value of tolerance.

2. Religion

On his quest for sustainability, the minister said he found that the shortest way was the Holy Quran. "I found in the Holy Quran that God Almighty spoke to the Prophet (PBUH) and said: 'And most surely you conform (yourself) to sublime morality'." He found that honourable morals are a common factor in all religions around the world.

3. Relationships

Sheikh Saif also discovered the meaning of sustainability during the visit of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, to India in January during which he watered the 'friendship tree' that had been planted by the late Sheikh Zayed when he visited India decades ago. "This is sustainability; life goes on," Sheikh Saif remarked, reflecting on the integration and cooperation between nations and generations.

4 WAYS THE UAE USES ETHICS TO PROMOTE SUSTAINABILITY

1. Implementing a moral education curriculum which combines international ideas with traditional religious and historical values
2. Teaching the importance of discipline and duty through national service
3. Developing a new review system for government employees to ensure high-quality service and professionalism are maintained
4. Encouraging multicultural unity in the ongoing fight against extremism

Acknowledging that sustainability has many definitions, Sheikh Saif stressed that the UAE's key objective is to achieve a sustainable country, not just sustainability in one sector. He then described a few of the ways in which the UAE is combining a commitment to traditional values and ethics with innovative approaches to ensure the endurance of the nation.

Moral Education

Hailing Japan for prioritising ethics, Sheikh Saif invited Reem Al Naqbi, an Emirati studying in Japan, onto the stage. She described how ethics and moral values have been taught in schools there for more than 150 years.

Sheikh Saif explained to the audience that the Crown Prince dispatched teams to Japan, Singapore and Canada, among others, to study how the subject was being taught in these countries. This mission led to the UAE's own moral education model, which merges international ideas with the country's religious and historical values.

National Service

Talking about the importance of the UAE national service, Sheikh Saif said: "It is a culture deeply rooted in every Emirati house, and has had a significantly positive impact on each family." It teaches young citizens about the value of discipline, which is an important factor in the ability of future generations to face challenges. It isn't just about "wearing the military uniform and going to work", emphasised Sheikh Saif.

Reviewing Progress

Sheikh Saif highlighted the success of the UAE's vetting and review process by inviting on stage Esmail Mohammad Abdullah, a former member of the UAE Armed Forces who, despite suffering disabilities in an accident, now works in the Ministry of Foreign Affairs. He was vetted by 'mystery customers' who confirmed his dedication to professionalism and helpful disposition.

The minister said 2017 would see the implementation of a new review system for government office-holders, under which performance assessments will be conducted every three months instead of every three or five years to ensure employees are meeting expectations.

Fighting Terrorism

In conclusion, Sheikh Saif emphasised the importance of ethics and multicultural unity in the fight against extremism and terrorism in order to preserve the sustainability of nations around the world.

"We are today waging a complex war against hatred, sectarianism and terrorism. We will emerge victorious, God willing, by holding onto our values and ethics and transforming them into a way of life. Defending the mosque means also defending the church... and defending humanity itself. Such values ensure the sustainability of countries."

3 PILLARS OF EMIRATI ETHICS

1. Learning from the kitab, or religious schools
2. Attending the 'majlis of the elders', which Sheikh Saif described as travelling and seeking knowledge from the wise
3. The dedicated, unrelenting efforts of mothers





HH Sheikh Mansour bin Zayed Al Nahyan (Second Right)
Deputy Prime Minister & Minister of Presidential Affairs of the United Arab Emirates

HE Shamma bint Suhail Faris Al Mazrui (First Left)
Minister of State for Youth Affairs of the United Arab Emirates

National Arab Youth Strategy

// Youth are our advisers and they are most qualified to work on a strategy designed for them

//

His Highness Sheikh Mansour bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs of the United Arab Emirates (UAE), announced the launch of the Arab Youth Strategy, accompanied by Her Excellency Shamma bint Suhail Faris Al Mazrui, Minister of State for Youth Affairs of the UAE, as well as several representatives of the Arab region's youth.

Passionate about encouraging young people, Sheikh Mansour emphasised that no one is more qualified to conceptualise Arab youth strategies than the young people themselves.

During the Summit's Arab Youth Forum, which was held on the sidelines of the event, 150 men and women between the ages of 15 and 30 from all 22 Arab countries gathered to brainstorm ways in which to influence the future of their region, which ultimately culminated in the Arab Youth Strategy's innovative initiatives.

Why Arab Youth?

Sheikh Mansour opened this important session with a number – 108,231,780. This huge number does not represent war victims or losses in the oil sector, he said. Instead, it represents "the most valuable resource in the Arab world... the Arab youth."

Young people constitute the largest segment of society in the Arab region. They are also the largest youth demographic in the entire world, Sheikh Mansour pointed out. He explained to the audience of leaders and delegates that this is exactly what makes the Arab youth so important.

"If we are talking about the future, youth are the makers of the future," he said. "If youth are the topic, the Arab world is the ideal place."

A strong believer in the fact that young people themselves are the most qualified to create a youth strategy, Sheikh Mansour welcomed five representatives who participated in the Arab Youth Forum to elaborate on the Arab Youth Strategy and outline the forum's key outcomes.

The Youth's Vision

Sara Minkara, a Harvard University graduate from Lebanon, expressed hope for her demographic's future. The founder of Empowerment Through Integration, an organisation that supports visually impaired youth in Arab communities, Minkara presented the youth's vision, which was formulated during the two days of discussion and debate.

"Our vision is for the Arab youth to create a global role model in building people, countries, development and philanthropy," she said proudly. While the young participants recognise that this is just the beginning, Minkara emphasised, their goal is to set an example for the generations to come.

A Framework Of Action

The discussions that took place during the Arab Youth Forum also yielded a framework for action, which was presented to the Summit by Jana Yamani, a Saudi Arabian graduate of the Massachusetts Institute of Technology.

Everything begins with collaboration, Yamani emphasised. The region's young people must come together to take initiative, speak up about the issues that

affect them and be included in policy decisions related to the youth. Through this interaction, she said, Arab youth can inspire each other.

"We are young people of actions, not words. We will plan, implement and achieve, and ultimately celebrate our achievements," Yamani concluded.

A Collective Effort

Governments, the private sector, communities and the media must unite in the effort to support and empower Arab youth to unleash their full potential, advised Hiba Darwish, a Palestinian graduate student at Harvard University. She called on these segments separately, advising each on what the youth of the region needs from them.

- **Governments**
Listen to and engage with the youth when making decisions and drafting policies related to their lives and future.
- **Private sector**
Invest in young Arabs by providing jobs and training opportunities, particularly for marginalised groups such as women and individuals with special needs.

- **Communities**
Push, support and encourage the young people of the region to succeed and provide them with opportunities to give back.
- **Media**
Report on Arab youth issues in a positive and effective way.

5 PRIORITIES OF ARAB YOUTH

Mohammed Saeed Al Ghabra, a computer science student from Syria, outlined the priorities the youth identified during the forum.

1. **Enjoy a healthy and secure life**
2. **Boost Arab youth's ability to compete by developing world-class education institutions to equip students with 21st century skills**
3. **Commit to leadership and create their own opportunities**
4. **Adopt a culture of giving and participate in volunteer work**
5. **Be proud of Arab identity and culture**

5 DIMENSIONS OF THE ARAB YOUTH STRATEGY

1. **Action**
Initiatives can only be successful if they are accompanied by action.
2. **Innovation**
New and innovative solutions are required to address the unique challenges of the Arab world.
3. **Resilience**
The only constant in today's world is change, so Arab youth must learn risk and crisis management to be able to accomplish their goals.
4. **Sustainability**
Young people must not let enthusiasm and dedication to projects and initiatives die out before they achieve the results they desire.
5. **Values and ethics**
Nothing can be accomplished without a strong foundation of morals, values and ethics, especially the love of one's country.





HE António Guterres (1)
Secretary General of the United Nations

Becky Anderson (2, Left)
Anchor & Managing Editor for CNN Abu Dhabi, Moderator

Main Address: The Importance Of Global Responses To Global Issues

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In a world in which everything is global, in which the problems are global, from climate change to the movement of people, there is no way countries can do it by themselves

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Countries and international organisations need to embrace globalism and work together on an international scale, and restore the current deficit of trust between people and their governments, the Secretary General of the United Nations (UN) told world leaders.

Reform

His Excellency António Guterres said change is needed across the board throughout the UN and the entities and countries it deals with if belief and trust in the intergovernmental organisation are to be recovered.

Citing a lack of confidence in the way governments interact with societies and corruption problems, the Secretary General said unease had spread

throughout the world as governments proved they were unable to properly handle the movement of people, particularly with the migration of refugees across Europe in 2016.

He said change could only come about with an essential 'surge in diplomacy', which would require governmental reform and honest brokers trying to bring countries together as a solution to crises. The required reform includes governments better interacting with society, encouraging young people to have their voices heard and empowering those who feel marginalised or left behind.

Reform of the governance of individual countries, how countries and international organisations deal with each other, and the multilateral governance of the UN is essential, said Guterres, as unity will bring a stronger approach to world problems.

He pointed out that the reform is "crucial to establish trust, and without trust, I do not think we will be able to address the very difficult challenges the world faces today".

Change Needed Within The UN

Guterres, who succeeded Ban Ki-moon in January 2017, said: "We need to create a win-win confidence-building capacity among different member states – the Western group, G77 and all the others – to make them understand that it is to the benefit of everybody to have a UN that is more nimble, more decentralised, with much more simplified procedures."

Guterres insisted peace and security strategies should be made more effective, as between 70% and 80% of the peacekeeping budget is currently spent on operations in areas where he claimed "there is no peace to keep".

Management reform is also necessary, he emphasised, as the current rules and regulations make the UN very difficult to run efficiently, adding that he even sometimes suspected they were conceived to paralyse the institution in its aims.

Importantly, Guterres said the UN member states need to recognise that they are still fragmented and, despite committing to the organisation, are unable to fully coordinate their action with one another, meaning accountability must be strengthened.

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2



Conflicts In Libya & Syria

In his discussion with CNN's Becky Anderson, Guterres said the decision by the United States (US) to block his nominee for the UN envoy for peace in Libya was disappointing, as he believes Salam Fayyad was "the right person for the right job at the right moment".

The Portuguese politician said Mr Fayyad – a former Prime Minister of Palestine, which was a factor in the US's objections – was competent and qualified for the post. He described the block as "a loss for the Libyan peace process and for the Libyan people", for which he saw no valid reason.

He said, however, it was very important to remember that the UN represents no single government or country, instead being bound only by its loyalty to the UN Charter.

On Syria, Guterres praised recent talks in Geneva between the opposing forces, which he called 'a first step' towards progress. "There is no solution for the Syrian problem without a comprehensive political solution in which all Syrians feel they are properly represented," he said.

"There is no way we can fight terrorism if, at the same time, we don't find political solutions to the crisis situations that today feed terrorism."

Tackling Inequality

By working together, Guterres predicted that inequality could be tackled and closer collaborations would help to manage problems which had previously been caused by independent operation of governments and organisations.

People living in countries which had seen progress in their nation but not benefitted from it, have become anxious, he said, as they either faced job losses or job creation in fields to which they could not adapt. This, along with poor handling of migration, has in turn led to the rise of populist parties and, in some cases, xenophobia.

"The inability of governments to come together and manage these problems creates the sense in many sectors of the

population that they are abandoned, that nobody's in charge, that they must be afraid for themselves, for their future. This is the best ground for populists and for xenophobes," he concluded.

"It is not enough to condemn xenophobia. It's not enough to condemn populism. We need to be able to engage in addressing the root causes."

KEY POINTS

- **There is a 'terrible lack of trust' between countries around the world**
- **Some sections of society feel 'left behind' even if their country as a whole benefits from globalisation**
- **Reforms are needed in governance, international collaboration and working with society**
- **The roots of xenophobia and terrorism must be explored**
- **Countries must work together to find solutions**



HE Christine Lagarde (Right)
Managing Director of the International Monetary Fund

Richard Quest (Left)
Anchor & Correspondent for CNN, Moderator

Keynote Conversation: Navigating A Shifting Global Economic Landscape

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Regulation is watching the present based on the learnings of the past. But it is the future that's going to be interesting

//

The global economy is always changing, and countries must prepare for shocks, cyber attacks and tax, and invest wisely, the Managing Director of the International Monetary Fund (IMF) advised the audience of government, business and world leaders. While the financial outlook was promising for the United States (US), Her Excellency Christine Lagarde warned their gain could lead to economic problems around the world.

A Change In Economies

The French lawyer and politician said the IMF had evaluated the US economy over the second half of 2016 and revised its growth forecast for the country for 2017 and 2018, but was clear this was an early prediction based on 'the little we know'.

Referencing announcements from the Trump administration and from the president on social media, she said it was likely there would be tax reform, and there would likely be additional investment in infrastructure, which had led to the IMF's revision.

If this economic improvement happened, however, there would be consequences for markets around the world as the dollar would rise, potentially causing increases in inflation and interest rates.

Resilience

Lagarde's advice to the Summit was straightforward: "We have to really make sure that our economies are resilient, that they are solid from a public finance point of view. Watch your fiscal situation, reduce your deficits if you have them, and diversify both the economies and the sources of income for the state."

She acknowledged the global economic situation was in constant flux, however, dependent on policies and elections and that, in some ways, it could not be anticipated. For example, the financial crash of 2008 had caused many world leaders and economies to be financially cautious, but had crept up on the world, amplified to some extent by changes to the workforce and new technologies.

More than eight years on, the effects were still being felt. Lagarde, the former Minister for Economic Affairs, Finance and Employment for France, said the ongoing efforts to improve the finances of Greece were a challenge for all of Europe, but some success had been seen with Ireland, Portugal and Cyprus, whose economies had improved since the crash.

Two Sides Of Globalisation

With some countries becoming more protectionist and moves towards populist politics in the US and the United Kingdom, Lagarde declared it was important to remember that through globalisation the average income of workers in advanced economies was double what it was 30 years ago, while

average income had increased threefold in emerging market economies.

Governments must also acknowledge and attempt to tackle the downsides of globalisation, such as inequality and job losses. She admitted, however, "it is hard to actually go down in the trenches and figure out how those people affected by globalisation are going to be helped".

How Governments Can Help

Lagarde suggested ways in which people affected negatively by globalisation may be helped.

- **A 'social safety net' from the state and other organisations to prevent people falling into poverty**
- **New vocational training initiatives on a lifelong cycle**
- **More education for young people, not just for traditional classes, but with a view to what will make sense in 10, 20 and 30 years' time**
- **A 'flexicurity'-style welfare system, as seen in some Nordic countries, which incorporates flexible working, training and employment security**

Managing Economic Complexities

Countries and policy makers must have solid public finances as well as 'buffers' that would help them in case of shock. She warned the IMF would be mindful of financial regulations and the activities of banking organisations, pointing out that banks have a 'particular responsibility' and therefore should not be excessively leveraged and would not be allowed to do anything they please.

It is critically important that governments around the world also be mindful of excessive inequality, she urged, which is the root of confidence issues and the lack of trust between the public and governments.

Death, Taxes & Cyber Security

Referring to Benjamin Franklin's quote about the only two certainties in life, Lagarde welcomed the introduction of VAT in the United Arab Emirates (UAE) in 2018. The tax is common around the world, and the noted lawyer said that by starting from scratch, its application in the UAE could be simple, digital and innovative, while also securing public funding for the region.

Citing her experience, Lagarde divulged that cyber security is the main concern of the heads of central banks around the world. She expressed her hope that economic leaders were not too far behind to protect themselves. "It's not only an issue of machines and digital platforms, it's also an issue of people and ethics," she warned, explaining there was usually an element of human facilitation when financial organisations were attacked.

KEY POINTS

- **An optimistic outlook for the US could see negative impacts on worldwide economies**
- **The financial crash was 'insidious', but facts, figures and proper assessment are still vital**
- **Economies should prepare for the worst without withdrawing from increased globalisation**



**HE Dr Jim Yong Kim**

President of the World Bank Group

Main Address: Education For Growth & Prosperity

// The private sector is the engine of growth, government the driver, education the fuel

//

Identifying markets, politics and learning as forces for change in the world, His Excellency Dr Jim Yong Kim asked the audience at the Summit what they should do to make tomorrow more peaceful and prosperous.

Dr Kim, who has been President of the World Bank Group since 2012, has devoted himself to international development for over 20 years. He urged the leaders and delegates in attendance to act with the urgency that these times require, and elaborated on the roles of the private sector, government and education in effecting change.

Citing Syria, Jordan, Egypt, Northern Nigeria, South Sudan and Afghanistan as the kinds of nations that most needed support from these three forces, Dr Kim pointed to Dubai as a powerful example of how to successfully channel them into prosperity for a nation's people.

He also highlighted a number of World Bank initiatives that had made significant progress since the previous World Government Summit in 2016. These included the Middle East and North Africa (MENA) Concessional Financing Facility, created to help displaced refugees from Syria. Through the generosity of nine donor countries and

the European Commission, this project raised \$400 million. The scheme has also now extended into a global programme that will allow young people to grow and learn, even if their lives are disrupted by conflict. This scheme now has \$2 billion worth of funding available, approximately \$700 million of which has already been invested into Jordan and Egypt to help refugees from neighbouring Syria.

Expanding on his analogy of the private sector as the engine, government as the driver and education as the fuel, Dr Kim looked at each of the three elements in turn.



5 PRIORITIES OF THE PLATFORM FOR EDUCATION

1. Expanding investment in early childhood development
2. Strengthening literacy and numeracy in early grades
3. Collecting information to enhance the performance and accountability of schools
4. Addressing the transition from school to work
5. Fostering the acquisition of 21st century skills

The Power Of Private Sector Investment

The private sector, he advised, needs to channel new investment into developing countries. Doing so improves those nations' ability to innovate, create jobs and raise incomes, and brings financing to areas identified by the World Bank as most desperately in need.

He encouraged government leaders to look at the benefits of the private sector in holistic ways. The societal gains of the mobile phone, for example, far outstripped the profits its inventors had made.

The Critical Role Of Governments

For governments, Dr Kim had a four-point plan for fostering innovation and encouraging private sector investment.

Firstly, they should provide a level playing field for all businesses and investors. Accompanying this should be transparent legislation, plus open competition for government contracts.

In addition, Dr Kim highlighted the importance of governments using technology to listen and respond to the needs of their people.

Education Holds The Key

Education was Dr Kim's main focus, as it powers economic growth and prosperity, and promotes peace and societal cohesion. He exhorted governments and educators alike to focus on the following major points:

1. Invest in early years learning

Smart investment in young children's cognitive and physical development is vital. It impacts their lifelong health, earning potential and more. He pointed out that the fact 25% of the world's children are educationally stunted is a crisis, trapping them into lives of poverty before they even turn five. Every country should invest in future generations – not just because it's the right thing to do, but because not doing so is a recipe for poverty, inequality and instability.

2. Rethink how we teach and how children learn

Children today need to become creative, critical thinkers, with a lifelong thirst for knowledge and problem-solving. Dr Kim suggested that technology is key, but that

teachers remain critical. He quoted the work of Milton Friedman, who, when assessing the information availability of today's internet age, said that the future will not be about what we know, but about what we do with what we know.

3. Provide relevant skills for the jobs of tomorrow

Today, there is a clear mismatch between skills and labour opportunities. Unemployment rates among graduates, especially in the MENA region, are high, leading to a profound waste of talent and potential. Yet at the same time, 40% of employers globally say they struggle to fill vacancies due to skills gaps.

Dr Kim completed his assessment of education by announcing the launch of **The Platform for Education**, which will convene annually alongside the World Government Summit.

This body already has five priorities (listed above), which align with Dr Kim's findings from throughout his career.

**Prof Klaus Schwab** (1)

Founder & Executive Chairman of the World Economic Forum

HE Mohammad Abdulla Al Gergawi (2, Left)

Minister of Cabinet Affairs & The Future of the United Arab Emirates,
Chairman of the World Government Summit, Moderator

Main Address: The Challenges Of **Globalism**

// Fixing the present system is not enough //

There is a reason to be optimistic for the future was the message of Professor Klaus Schwab, who laid out his vision of a world which is turning away from a fragile and hostile outlook, and towards a more positive, global optimism.

By embracing advances in technology and encouraging collaborations within and between organisations, the senior economist said a bright future is one option for the world.

A Historic Crossroads

Prof Schwab said he believes the world is being torn in two directions, and the only options being considered by the majority of governments, individuals and organisations both carry dangers. The continued rise of neoliberalism and global corporations, while beneficial to many in recent years, has led to a backlash by millions of people – mainly in the West – who feel more disadvantaged than ever.

The other option – increasingly prominent in Europe and the United States (US) – is to, in effect, put up walls and focus on a world more 'anchored in yesterday' than in a potential future. Prof Schwab said this path is characterised by fragility and hostility, and he would suggest neither of the two options currently being considered is the best way forward.

He advised constructing a third way, a new way of working together, in line with the new world unfolding before us: "We should not argue in the context of yesterday. We should really first analyse how the world has dramatically changed and is changing in an exhilarating way."

Two Sides To Globalism

The German economist, who founded the World Economic Forum in 1971, said globalisation had changed the world, with positive aspects including:

- **More than one billion people lifted out of poverty**
- **Substantial increase in an individual's life expectancy**
- **Lower prices for consumers due to global supply chains**

He acknowledged, however, that changes to the way the world works had left skills and labour in lower demand, as processes became more streamlined and mechanised, which left many parts of society angry and upset.

A new industrial revolution, led by advances in artificial intelligence and other updated processes once considered science fiction, would see people's lives and the way they consume change again, and it was up to businesses, organisations, nations and the world to ensure the changes are handled in a way that does not leave anybody behind.

"We don't know how the world will really look," Prof Schwab pondered. "There is emotional turmoil. People in most parts of the world are angry, facts don't count anymore and fake news may become more important than reality, so how do we address that situation?"



RECOMMENDATIONS FOR MOVING FORWARD

Prof Schwab, who taught business policy at the University of Geneva for 40 years, outlined what he considered the most important points for organisations and governments to consider going forward.

1. Revolutionise thinking

Fixing the present system is not enough. In Prof Schwab's opinion, the current neoliberal system had served its purpose, but recent events in Europe and the US showed a revolution rising against it. Elements of the libertarian opposition, tearing down the notion of government influence on private lives, was already on display in the new US administration. "If we want to go forward," he said, "we need a completely new way of thinking, where the human being... and social advancement [are] at the centre".

2. Prepare for the future

Preparations must be made for the fourth industrial revolution, which should be seen as an opportunity, rather than something to fear.

Artificial intelligence is not a threat to humans, but could allow us to humanise robotisation. Prof Schwab called for people to trust in the future with a constructive mind.

3. Involve multiple stakeholders

The world's challenges cannot be solved by governments, businesses or society alone. He called for new methods of collaboration between all three and flexible operation.

4. Integrate identities

Nationalism and globalism should not be contradictions. The world is a global community that is facing nuclear weapons, environmental issues and epidemics which could bring humanity to its knees. Such issues can be resolved by working together, and integrating national and global identities.

5. Combine philosophies

By combining the philosophies of the West, which focus on the individual, with the philosophies of the East, which emphasise the collective, power and responsibility can be better distributed.

6. Review rules and roles

Prof Schwab suggested one of the reasons for recent populist challenges in Europe was due in part to dissatisfaction with the European Union's (EU) rules. The roles of subsidiarity and service should, therefore, be explored to ensure more flexible ways of working within organisations like the United Nations and EU, as well as in governments and businesses, ensuring rules are instituted only when absolutely necessary.

7. Respect humanity

Individuals and organisations should respect human dignity and the diversity of humanity, serve the community they belong to at least as much as they serve themselves, and always consider themselves a steward for the next generation.

8. Promote good leadership

Responsive and responsible leadership should be promoted to ensure leaders have the respect and trust of the people.

**Sir Suma Chakrabarti**

President of the European Bank for Reconstruction & Development

Main Address: The Private Sector's Role In Developing **Successful Economies**

// For MENA, the private sector can best deliver the sustainable growth the region needs

//

The private sector is particularly vital in contributing to sustainable growth in the Middle East and North Africa (MENA) region said Sir Suma Chakrabarti in his main address.

The region's burgeoning youth population and its struggle to create meaningful employment are the reasons for this conclusion, but key barriers need dismantling if the sector is to have a real impact, he said.

While the state and other stakeholders do have a role to play, the dynamism and scale of what is required could only come from the private sector, he argued, adding that the contribution needed is not purely in terms of investment, but also in the technology and management techniques that the sector can bring.

Chakrabarti described the experience in breaking down these barriers, which has been gained by the European Bank for Reconstruction & Development (EBRD) elsewhere. The EBRD, which was founded primarily to assist central Asia and Russia navigate the transition from state control in 1991, has the main mandate of promoting private entrepreneurial initiatives, wherever the world most needs it. Globally, 60% of its funds go to private sector organisations

and the rest to governments. In MENA, this proportion rises to 75%.

Identifying The Barriers

The EBRD recently partnered with the World Bank and European Investment Bank to assess what it is that holds the private sector back. They surveyed 6,000 firms across numerous countries, including Djibouti, Egypt, Morocco, Tunisia and Yemen. Eight common themes emerged, which Chakrabarti warned need to be addressed to enable the private sector to contribute to sustainable growth.

In outlining these themes and associated EBRD projects, Chakrabarti, who was for many years the United Kingdom's Ministry of Justice's most senior civil servant, urged his audience to be positive – these barriers may seem daunting, but they can be overcome. Doing so will not only create growth, he added, but will also raise living standards and provide a credible alternative to economic migration for the region.

8 BARRIERS THE PRIVATE SECTOR MUST OVERCOME**1. Corruption**

Whether directly experienced, or as a perceived issue, corruption is a key obstacle. Some 50% of the firms surveyed felt it was an impediment to their work. The EBRD is investing in initiatives such as anti-money laundering training in Tunisia, but these are the 'tip of the iceberg' and there is more work to be done.

2. Political instability

While this has improved recently, more is still needed to ameliorate its impact on areas such as transparency, governance and competition. Chakrabarti said that the EBRD is implementing investment councils for policy reform in many countries, helping to create platforms for dialogue.

3. Unreliable electricity supply

Although this is also improving, legacies remain from the rapid expansion of networks. These include distorted subsidies, inefficiencies due to state control

and lack of adequate investment. By pioneering investment in solar panels in Jordan and wind farms in Morocco, the EBRD is demonstrating how the private sector can act as a catalyst in the energy industry.

4. Poor access to finance

This challenge is so acute for SMEs that many have stopped bothering. Alternative vehicles are needed for businesses to procure financing because banks in the region have such a traditional, conservative approach to credit.

5. Women's economic involvement

Citing the EBRD's 'Women in Business' project in Egypt, Chakrabarti stressed the need for financial and technical support for women who are starting or expanding a business in the MENA region.

6. Skills gaps

In Chakrabarti's view, the region's education systems are not adequately equipping young people with the skills that markets need – focusing in particular on passing exams for public sector roles. Technical and vocational training is far too low of a priority. Again, the EBRD is spearheading programmes to address this discrepancy, such as an initiative in the hospitality and retail sectors in Jordan.

7. Trade restrictions

It is also vital that companies find it easier to enter and exit markets. "The more trade there is, the more we see productivity and competitiveness grow," he said.

8. Excessive red tape

In a similar vein, excessive levels of 'red tape' need to be addressed in order to provide the dynamic environment in which the private sector thrives.



50% OF FIRMS IN MENA
CITE CORRUPTION AS
AN IMPEDIMENT

€5 BILLION INVESTED
BY EBRD IN THE REGION
SINCE 2012

120 EBRD PROJECTS
IN MENA TO DATE

Edge Of Government

The Edge Of Government showcase presented disruptive new, and often counter-intuitive, ways to solve some of the most pressing public challenges. The main purpose of the exhibition was to inform other governments of the increasingly wide array of tools at their disposal, trigger new thinking and inspire them to connect with the innovators behind the exhibits.



**HE Irina Bokova**

Director General of the United Nations Educational, Scientific & Cultural Organization

Towards A Multilateralism Of Knowledge: Building Resilient Societies Through **Education & Innovation**

//

The ultimate renewable energy is human ingenuity; we should unleash this through education

//

In a summit that she felt had been driven by the power of ideas, United Nations Educational, Scientific & Cultural Organization (UNESCO) Director General Her Excellency Irina Bokova pinpointed the three concepts she felt were most critical: education, innovation and social inclusion. Addressing the significant global imbalance in these is the most compelling task facing international governments today, she urged.

A World Of Different Halves

This imbalance is severe, according to Bokova, the first woman to ever head UNESCO. On the one hand, many parts of the world are now better connected than ever before, and vast opportunities exist.

In those parts of the world, new forces of innovation are emerging, catalysing advances in science and technology and being driven by information. This also means that new solutions to the world's problems are being continuously created, along with new policies, partnerships and global agreements on human rights and dignity. The result of all these is change for the benefit of everyone, Bokova said.

As examples, Bokova cited the United Nations' (UN) 2030 Agenda, which outlines the Sustainable Development Goals, and the Paris Agreement on climate change. Both illustrated a new thirst for multilateralism, she said – a multilateralism that is complex and multilayered, and that reaches far beyond conventional agreements and governments. This new approach is needed, in her view, because the stakes are so high; and it is precisely because of this new approach that they will be able to succeed.

On the other hand, however, many groups across the world are suffering. Here one sees conflicts tearing societies apart, humanitarian tragedies on unprecedented scales, rising extremism and deepening inequalities. Exclusion, she said, is the one common thread that ties all of these together.

To address this imbalance, Bokova encouraged leaders to therefore focus efforts on improving each of those areas: education, innovation and inclusion. She highlighted inclusion and education in particular.

Combatting Exclusion

Inclusion "is the force that will prevent conflict and sustain peace". It will open new paths to sustainable growth, create new partnerships and inspire a new openness within society.



Young people and women were particularly affected by exclusion. Too many young people around the planet are uneducated, displaced and trapped in poverty. Similarly, girls and women are not getting the opportunities they need. Globally, some 250 million people remain outside the educational system, with girls and women carrying the heaviest burden in this. It is predicted that universal secondary education will only be achieved by 2084 – a worryingly distant date.

Tackling such exclusion calls for 'soft power' – government with respect for dignity and rights for empowerment – Bokova emphasised. Such soft power is something she feels UNESCO is making an essential contribution in providing.

Enhancing Education

Inclusion and education are inextricably linked, which means improved inclusion needs to start early, in schools. Education should form 4% to 6% of GDP, and 12% to 15% of public expenditure, she reminded leaders. If we are to achieve this, 'business as usual' is not an option for education. Bokova urged leaders to target education enhancement with investment and renewed political vigour.

The New Style

Bokova concluded her address by saying that a new leadership is required across all governments because our societies are becoming more and more diverse.

This requires policies that strengthen social cohesion while also making the most of diversity. Tolerance is key to this. Leaders need to show that tolerance matters by teaching our shared history and by showing that culture is much more than just buildings and traditions. It is also who we are, and how we see the world. Culture is about belonging.

This new leadership should work hand in hand with a public responsibility to build common ground to bridge inequalities, she advised.

It should forge new partnerships at every level – between public and private sector, civic society and academia. Most of all, it should mobilise a new form of collective action, one that unites dynamism across laboratories and boardrooms, front rooms and meeting rooms.

**FUNCTIONS OF
ENHANCED EDUCATION**

- Provide quality education for all – boys and girls
- Harness new technologies
- Initiate research and development
- Cultivate new and innovative forms of global citizenship
- Match skills to development and market priorities
- Encourage intercultural dialogue
- Help to protect the planet

**BOKOVA'S ADVICE
TO GOVERNMENTS**

- Improve social inclusion
- Target education with investment and renewed political vigour
- Promote innovation and forward thinking as the way forward



HRH Princess Haya bint Al Hussein

Chairperson of International Humanitarian City

The Future Of Humanitarian Aid

// Humanity is our responsibility. This is what future generations will judge us by

//

Global responses to humanitarian crises are stuck using outdated models, and as a result, the humanitarian sector lacks creativity, innovation and technology, said Her Royal Highness Princess Haya bint Al Hussein, wife of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates (UAE), Ruler of Dubai.

To address this issue, she called on governments and technology innovators to join the UAE's International Humanitarian City in creating a global hub for data on aid logistics, plus advanced technological services for relief workers.

Current Global Humanitarian Crises

HRH Princess Haya, who has gained international recognition for her prolific humanitarian work, described how the

world is witnessing an increasing number of crises. At present, more than 65 million people have been displaced from their homes due to wars in Syria, Yemen, Nigeria and other trouble spots – the highest level since World War II.

The cost of these crises is staggering, she emphasised. The level of immediate humanitarian aid required from United Nations (UN) organisations and non-governmental organisations (NGOs) has grown to \$22 billion, 10 times the amount in 2000. In addition, about 800 million people around the planet still suffer from chronic forms of hunger. A UN report estimates 50 million will be displaced in the next decade due to desertification and climate change.

The Need For A More Dynamic Approach

Despite these challenges, HRH Princess Haya suggested that for the last 60 years the world has operated on the Marshall Plan, a conventional humanitarian aid model which was designed to pull Europe out of hunger and poverty following World War II. While this model was considered innovative when introduced, it is now out of date and begs to be rethought, she stressed.

With this as the current model, the humanitarian sector seems to stand against creativity, innovation and technology – against anything unconventional. Moreover, both Arab and Western governments appear to be suffering from an overwhelming sense of fatigue.

HRH Princess Haya reminded the Summit that governments have the power to make decisions and solve current crises, especially those that are political. They can also empower those working in the relief and humanitarian sectors to fulfil their missions.

The priority, she proposed, must be reducing hunger to zero. According to the Food and Agriculture Organization of the UN, the world wastes \$2.6 trillion of food a year. This could feed the planet three times over – including the 800 million who are hungry today. Governments could then proceed with combatting poverty through development programmes, sound planning and consistent monitoring to ensure transparency.

In everything, governments should agree aid is never competitive or monopolistic. Equally, innovation is absolutely necessary for sound planning of relief operations. Investing in these

operations is an investment in the future, similar to education and health, HRH Princess Haya declared.

The UAE's Focus On Aid

As a case study of such innovation, HRH Princess Haya outlined the importance the UAE's government places on aid and the steps it is implementing.

According to the Organisation for Economic Co-operation & Development (OECD), the UAE has been the world's most generous donor since 2013. Humanitarian and development aid stands at 1.3% of the country's gross national income, and in 2015, the UAE increased total foreign aid by 43% to \$8.8 billion.

The UAE's Recent Humanitarian Initiatives

- His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, declared 2017 the Year of Giving across the UAE
- His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, Ruler of Dubai, announced the creation of the UAE Food Bank

Dubai's International Humanitarian City

Her Royal Highness is also the chairperson of Dubai's International Humanitarian City (IHC), founded in 2003. IHC brings together all the major players in humanitarian aid under one roof – nine major UN agencies, the Red Cross and Red Crescent, and more than 50 NGOs. It has grown to become the largest humanitarian logistics hub in the world, and also the fastest in its response time. For example:

- IHC can reach most of the world's major conflict sites in six hours or less
- When the UN decided to evacuate its staff from Kabul to Dubai several years ago, the IHC handled the whole operation in just three hours

In terms of innovation, IHC has started using advanced technology to collect and organise data that can expedite response efforts. HRH Princess Haya proposed the creation of a global hub for humanitarian data on logistics and aid deliveries, to be hosted by the IHC. She invited all governments to provide any specialised data that

FACTS & FIGURES

- 65 million people have been displaced from their homes by wars in Syria, Yemen, Nigeria and other trouble spots
- \$22 billion in aid is now required from UN organisations and NGOs, 10 times the amount in 2000
- 800 million people are suffering from extreme poverty around the planet
- 1.3% of the UAE's gross national income is dedicated to aid
- \$2.6 trillion worth of food is wasted around the world every year – enough to feed the world three times over

might assist in this effort, and called on leading innovation houses to work together to ensure more advanced technological services were available to relief workers around the world.

She concluded by stressing the importance of government leadership in the humanitarian sector. The UAE is able to support innovation, she said, because the goal of its leadership is crystal clear: building a forward-looking state that contributes to a world where peace, security and human decency prevail.

HRH PRINCESS HAYA'S RECOMMENDATIONS

- A new approach is needed for responding to humanitarian crises
- A global hub for humanitarian data on logistics and aid deliveries should be created and hosted at IHC
- Leading innovation houses must work together to ensure more advanced services are available to relief workers
- Eradicating hunger should be the first priority, followed closely by combatting poverty

**HE Helen Clark**

Administrator of the United Nations Development Programme

Main Address:

Improved Global Governance To Meet Our Shared Challenges

// There can be no sustainable development without peace and no peace without sustainable development

Her Excellency Helen Clark, the first woman to head the United Nations Development Programme (UNDP), admitted that effective global governance is struggling in the peace and security realm but urged countries to address the root causes of conflict in order to build and sustain peace.

Institutions of global governance, which Clark described as the governance needed to tackle challenges that are beyond the capacity of individual nations to resolve on their own, have to continually refresh themselves in order to remain relevant.

Expressing concern over a sharp rise in conflicts and terrorism, Clark underlined that development deficits must be tackled to build a more peaceful world.

Clark, who served for nine years as the Prime Minister of New Zealand, highlighted calls for greater

representation and voice for emerging economies, but also stressed that regional and sub-regional trade agreements left smaller economies disadvantaged when negotiating with more powerful economies outside the multilateral framework.

Origins Of Global Governance

Clark briefly traced the origin of global governance to the founding of the League of Nations nearly a century ago, its failure to prevent war and the eventual birth of the United Nations (UN) in 1945 to promote peace, human rights and development.

The UN was responsible for the substantial body of international law and norms across fields apart from the practical humanitarian and development work, Clark highlighted.

"The UN is credited by the UN Intellectual History Project as having been an incubator of new and powerful ideas, which have shaped policies around the world, not least in promoting gender equality and human rights more broadly," she said.

Progress In The Economic Arena

The G20 meetings – an international forum comprising 20 major economies for international cooperation on financial and economic issues – filled a glaring gap in the economic dimension of governance, explained Clark, especially with the weight their decisions carry during times of financial crisis.

She noted that it was encouraging to see the G20 chairs go to great lengths to involve more voices. International financial institutions, including the World Bank and other multilateral and regional development banks which are critical development partners of the UN, have had debates about representation and voice for emerging economies. In particular, the World Bank has been implementing reforms aimed at increasing developing countries' ability to be heard.

The Trouble With Trade Agreements

Clark admitted that the outlook on trade was not so rosy. She pointed out that the multilateral spirit, which has been apparent in some trade agreements, has not carried through in every instance.

There are a number of sticking points, and as a result, less of the world's dynamic trade is covered by the multilateral rules, she explained. The proliferation of regional, sub-regional, and other trade agreements does not help either, Clark said, adding that it leaves small and low-income economies disadvantaged when negotiating with more powerful economies outside the multilateral framework.

Development's Upward Trajectory

In view of the phenomenal agenda-setting year of 2015 – which saw the finalisation of the UN's Sustainable Development Goals in Agenda 2030, the Addis Ababa Action Agenda on the Financing for Development and the Paris Agreement on climate change, among others – Clark was optimistic about development.

She made a special mention of the UN Summit for Refugees and Migrants, highlighting the need for comprehensive responses to "the worst forcible displacement crisis we have ever seen".

Concerns Over Peace & Security

While crediting the UN for its peacekeeping role for decades, Clark expressed concern over the spike in numbers of deadly conflicts from around 2011, especially the ongoing waves of terrorism fuelled by violent extremism. She admitted that the UN has not found it easy to address this.

"In a number of the currently raging conflicts, there is no mandate for UN Peacekeepers to be there at all," she said.

She emphasised that reform of the veto power of the Security Council and permanent membership would help.

Looking At The Big Picture

Clark stressed that peace and long-term development go hand in hand.

"It's surely no accident that many states which we see lapsing into deadly internal conflict have combinations of high levels of poverty and inequity".

She believes that the UN's new Agenda 2030 links the building of inclusive and just societies with poverty eradication, technical equalities and environmental sustainability.

THE UN'S ACHIEVEMENTS

- Establishing the concept of human development as an alternative to measuring GDP per capita or as a sole measure of development progress
- The Millennium Development Goals initiated in 2000
- The Sustainable Development Goals launched in 2015
- Prevention of war despite rising Cold War tensions and the build-up of nuclear weapons arsenals
- The UN's role in supporting decolonisation, resulting in 193 member states today from 51 founders

"The magnitude of the shared problems we have requires us to continually reinvigorate the multilateral institutions of global governance," Clark concluded.

4 DIMENSIONS OF GLOBAL GOVERNANCE

1. Economics
2. Trade
3. Development
4. Peace and security



**HE Macky Sall** (1)

President of Senegal

HE Sultan Ahmed bin Sulayem (2)

Chairman & CEO of DP World

Richard Quest (3, Left)

Anchor & Correspondent for CNN, Moderator

The Value Of Trade: Growing Economies, Improving Lives

The President of Senegal His Excellency Macky Sall and His Excellency Sultan Ahmed bin Sulayem, Chairman and CEO of leading ports operator DP World, stressed the importance of protecting free trade amid growing fears of protectionism, especially on the part of the United States (US).

At a session moderated by CNN's Richard Quest, Sall highlighted how all economies are interdependent. He said no country, regardless of its size or power, can survive autonomously in a globalised world.

Allaying fears surrounding the economic climate, bin Sulayem described the anti-globalisation sentiments as a phase that the world was going through, a phase that would pass without impacting trade and business too extensively.

Perceived Protectionist Policies & Globalisation

As a president who has envisioned a new development model for Senegal, Sall stressed that international trade needs to have a system of rules that protects investment and the free movement of goods, capital and people. He underlined that it would do no good to cut oneself off from all these flows, alluding to fears of possible American protectionism.

"I think it would be a mistake to fall back on our own economies because, after all, international economies are interdependent. Whatever the country, whatever its size, whatever its power, I think that every country today cannot live autonomously," Sall said.

As one of the companies that has benefitted from globalisation through the free movement of goods, bin Sulayem was asked if Dubai-based DP World would suffer in a possible backlash against globalisation. The CEO said he firmly believed that the anti-globalisation sentiments are 'a phase'.

"I don't think it's going to affect our business in the way that it has been perceived," he posited.

Free & Fair Trade

Asked about apparent concerns of the world moving away from the free trade model, Sall replied in the affirmative, saying some fears indeed existed. "Globalisation has to take into consideration national interest... So I think we have to improve on this model of free trade and we have to be vigilant to try to protect it," Sall said.

On the other hand, bin Sulayem assuaged protectionist concerns, saying that US President Donald Trump was in fact for fair trade. "Today, who is holding the flag of anti-globalisation? It is Donald Trump. For him, he's talking about fair trade not free trade. And fair trade, everybody is for it," he remarked, adding that if the US is open, he expects other markets to be open as well.

President Sall defined fair trade as "one that is fair, that is just, that allows different countries to produce, to sell their goods and also for other countries who can receive investments to be able to do that without the constraints".

On US engagement in Africa, Sall hoped Trump would realise that Africa is an open continent with more than a billion people and great potential.

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Challenges In Africa

As CEO of DP World, which manages the Dakar container terminal in Senegal and is developing a logistics free zone in the country, bin Sulayem highlighted the need for better infrastructure in Africa.

"In our business, the biggest danger is the inefficiencies in the supply chain. What we need is better infrastructure to connect Dakar into Mali, into Chad, into many landlocked countries," he said.

There are more than 200 million people who live in landlocked countries and this is where bin Sulayem sees an opportunity for his company's growth.

Both panellists agreed that public-private partnerships play an important role. "So what we need from the many presidents in Africa is transparency and good governance to qualify for safe investments in infrastructure," bin Sulayem asserted. Sall assured bin Sulayem and the leaders in attendance that Africa recognised the importance of infrastructural development. In his words: "Without infrastructure, you cannot have sustainable development."



Emerging Senegal is the flagship policy framework of President Sall's government, which aims to get the country on the road to development in 2035. According to him, the plan is based on three pillars.

3 PILLARS OF EMERGING SENEGAL

1. To structurally transform the economy, making it robust and resilient through better infrastructure, increased agricultural production and developing the energy sector
2. To achieve inclusive wealth, maintain employment and acquire new knowledge in new fields in order to prepare Africans for this new economy
3. To apply the rule of the law and practise good governance

Emerging Markets

Despite the latest numbers from the World Trade Organization hinting at stagnation in world trade, bin Sulayem emphasised that growth now lay in emerging markets. "In our business, 75% of the growth that we see is in emerging

markets – in Africa, in Latin America, in Central and South-East Asian countries," he stated.

The CEO emphasised that growth in emerging economies like Senegal and Mozambique, among others, meant growth for his business too.

"The formula is 1% growth in the GDP in Senegal will translate to three times the number of containers... So the more growth in the GDP, the more I'm interested in being in that country," bin Sulayem explained.

KEY POINTS

- No country can survive autonomously in today's globalised world
- Anti-globalisation sentiments will pass without impacting trade and business too extensively
- There is some fear that the world will move away from the free trade model
- Public-private partnerships play an important role in development and growth



HE Miro Cerar
Prime Minister of Slovenia

Main Address: Smart & Sustainable Slovenia

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For a prosperous future it is necessary to integrate sustainability in our way of life, state policies and business models

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His Excellency Miro Cerar, Prime Minister of Slovenia, detailed his country's strategy to foster a society based on solidarity and tolerance, while also creating a truly sustainable economy and environment.

The Government of Slovenia has a vision for its nation to become smart and sustainable by 2050. On its journey to achieve this long-term goal, a strategic plan is currently being drafted and its implementation will comprise a basic agenda for Slovenia's overall sustainable development.

Cerar was eager to stress that implementation is what matters most. Draft documents do not translate into progress unless the words written on them are translated into action.

Sustainability As A Way Of Life

Slovenia's sustainability is anchored to the nation's state of mind and way of life, Cerar explained. A strong educational system, technological advances, creativity and respect for work and nature are just a few of the factors that contribute to the country's sustainability.

Slovenia's strong engineering tradition encompasses "inquisitiveness, challenging technical limits or perfection, and an eagerness to deliver innovation, creativity and smartness", Cerar explained. He pointed out that these attributes explain why exported goods and services account for 75% of Slovenia's GDP.

A Strategy For Sustainability

According to Cerar, "The real value of science, technology or progress can only be measured in terms of how beneficial they are to society and our planet". This is a central tenant of Slovenia's plan to secure a viable future.

He asserted that in order to ensure further development, as well as the prosperity of society, sound solutions would have to be devised. These effective solutions would combine three things: ethics and moral values, cooperation and a strong awareness of the importance of sustainability.

Using these principles, and recognising that everyone has a responsibility to the environment, nations can become both smart and sustainable, Cerar stressed.

Scientific Advancement & Sustainability

The acceleration of scientific knowledge and advanced solutions has often been the driver of progress in society, Cerar explained. This has changed human life and has 'enabled the transfer of ideas, knowledge, goods and people faster than ever', he said. It is not clear, however, whether these advances in technology are bringing humankind toward a "developmental peak of our civilisation, or its downfall".



KEY POINTS

- **Morals, ethics and the environment are just as important to achieving sustainability as technological innovation**
- **The rush to digitise should not overshadow other aspects of society**
- **Educating young people is a crucial stepping stone in the pursuit of sustainability**
- **Progress is not measured by scientific advancement alone**

Cerar warned the Summit that historically, when human progress has occurred too rapidly, it has been accompanied by an increase in human aggression. "This is often reflected in an ignorant attitude toward the environment and in increasing incidents of exploitation, armed conflicts and killings," he said, which is something that governments should be mindful of when pursuing innovation.

Digitalisation With A Human Face

Cerar was keen to emphasise that technological advancement and the rush to digitise should not overshadow other aspects of society. The digital future is important, he said, but Slovenia advocates digitalisation with a human face.

"Our vision is to use modern digital technology to improve the quality of life and pursue sustainable and inclusive growth," he explained.

Cerar also proudly announced that Slovenia is the first government in the world to receive official authorisation for a state cloud system.

The Youth As The Future

Cerar praised the United Arab Emirates (UAE) for their foresight in fostering a progressive youth policy, adding that "the UAE has long had the agenda of engaging the youth and seeing them as driving force towards a positive future".

Cerar pointed out that educating young people is a crucial stepping stone to securing sustainability, and that the current generations should not forget that their actions and policies will determine the future for today's youth.

"Our youth are truly our future, but we must not forget that we are the future for them as well," he asserted.

Smart & Sustainable Slovenia

The primary message that Slovenia would like to impart to the rest of the world is that sustainability must be ingrained into everyday life, Cerar emphasised. "It is my profound belief," he said, "that in obtaining cutting-edge and sustainable solutions for the future, we need to rely strongly on our moral values and progressive experiences".

Morals, ethics and caring for the environment are just as vital to achieving sustainability as scientific advancement and technological innovation, he concluded.

5 FACTORS THAT CONTRIBUTE TO SLOVENIA'S SUSTAINABILITY

1. **A strong education system**
2. **Technological advances**
3. **Creativity**
4. **Respect for work**
5. **A high regard for the environment**

3 ASPECTS OF EFFECTIVE SOLUTIONS

1. **Principles and rules of true ethical, legal and other values**
2. **The necessity to cooperate**
3. **A strong awareness of the importance of sustainability**



HE Tshering Tobgay
Prime Minister of Bhutan

The Role Of Government In Achieving Happiness

// Happiness is important, so why don't governments take it seriously? It should be a public good rather than an individual pursuit

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Bhutan is driven by a pioneering vision that measures prosperity based on the happiness of its people, and regards well-being as more important than material growth.

In an illuminating talk about 'gross national happiness' (GNH), the Prime Minister of Bhutan, His Excellency Tshering Tobgay, held his country up as an example of how to put happiness at the heart of a nation's agenda.

What Is Gross National Happiness?

The *Gross National Happiness Index* is a big idea from a small state. As Tobgay explained in detail, it is a measure of good governance and progress, and it is considered more important than Bhutan's gross domestic product (GDP).

"GNH is a holistic approach to development that aims to enhance the well-being of our people. It steers the government away from chasing unrestrained material growth and towards sustainable economic development that is balanced with social progress, cultural protection, environmental preservation and good governance," the Bhutanese prime minister asserted.

GNH In Action

The GNH Commission is responsible for applying GNH to all government decision-making, said Tobgay. He explained that it uses a GNH screening tool to assess the suitability of all new government policies against 22 indicators that influence happiness. These include material well-being, equity, transparency, anti-corruption, gender, pollution, public health and stress.

"Many policies are sent back for review and improvement until they are deemed GNH friendly," he added.

How Happy Is Bhutan?

Tobgay explained how GNH is measured across Bhutan, which has one of the smallest economies and smallest populations in the world. To date, there have been two surveys – in 2010 and 2015 – which measured happiness in terms of income, housing, schooling, mental health, emotion, family, safety, environment, sleep sufficiency, government performance and many other aspects.

"Measuring GNH is difficult but it is important, and the results are revealing," admitted Tobgay, who then relayed some key findings of the 2015 survey:

- **The happiness of Bhutanese people has increased by 1.7% from 2010 to 2015**
- **Overall, 91.2% of people in Bhutan were happy and 43% reported that they were extensively happy**
- **Happiness levels in women have increased more than in men, suggesting an improvement in gender equality**

9 DOMAINS OF GNH

Tobgay elaborated further on GNH by discussing the nine domains that form the basis of GNH measurement and screening tools:

1. Living standards
2. Health
3. Education
4. Environment
5. Governance
6. Psychological well-being
7. Cultural resilience
8. Community vitality
9. Time use



- **Happiness in rural communities increased, but happiness in urban areas is still considerably higher**
- **Single and married people are happier than divorced people**
- **Educated people are happier than less-educated people**
- **Bhutan's citizens are getting 14 minutes more sleep per night**

How Effective Is GNH?

"The *GNH Index* gives us a glimpse into the well-being of our people, and a snapshot of our quality of life and how it's changing, for better or for worse. It provides a wealth of information, which is used to revise government policy to enhance happiness," Tobgay said.

He highlighted examples of how the *GNH Survey* results are influencing government policy. The government has introduced measures to improve rural livelihoods and increased maternity leave from two to six months. The 2015 results have also laid the foundation for its five-year planning cycle.

Lessons From GNH

Throughout his speech, Tobgay showed a series of photographs taken by His Majesty the King of Bhutan Jigme

Khesar Namgyel Wangchuck during his royal tours across the country to ask people first-hand if they are happy. As Tobgay explained, happiness is prioritised as 'a public good' in Bhutan.

He added: "Our king has reminded us that GNH is a bridge between the fundamental values of kindness, equality and humanity and the necessary pursuit of economic growth. He acts as our national conscience."

Tobgay also applauded the United Arab Emirates for its groundbreaking efforts to become one of the happiest countries in the world. "You are ahead of the pack in defining your ultimate goal for the happiness and well-being of the Emirati people," the minister concluded.

4 PILLARS OF GNH

Tobgay gave insight into the concept of GNH by introducing the audience to its four pillars for happiness:

1. Sustainable socio-economic development

Citizens of Bhutan are given free healthcare and education to help improve standards of living and well-being across the country.

2. Preservation of culture

Happiness depends on Bhutan protecting its culture and traditions in this age of globalisation. As the last surviving Mahayana Buddhist state, it has a unique spiritual and cultural heritage.

3. Environmental conservation

More than 72% of the country is under forest cover, and over half is protected as nature reserves, wildlife sanctuaries and national parks. It is also one of the few countries in the world to be carbon negative.

4. Good governance

The pursuit of good governance was recently enhanced by changing the political system from a monarchy to a parliamentary democracy, and this democracy remains faithful to the ideals of GNH.

**HE Tshering Tobgay (1)**

Prime Minister of Bhutan

HE José Graziano da Silva (2)

Director General of the Food & Agriculture Organization of the United Nations

HE Patricia Espinosa (3)

Executive Secretary of the United Nations Framework Convention on Climate Change

HE Dr Thani Ahmed Al Zeyoudi (4)

Minister of Climate Change & Environment of the United Arab Emirates, Moderator

Our Climate Is Changing, Our Food Must Too

Life will get worse for the world's poorest people if governments, international organisations and industry do not work together to reduce food waste and act against global warming. His Excellency Tshering Tobgay, Prime Minister of Bhutan, warned during a panel discussion moderated by His Excellency Dr Thani Ahmed Al Zeyoudi, Minister of Climate Change & Environment of the United Arab Emirates.

He said the world has never been as well off as it is now, and with effort, poverty could even be wiped out. Without the willingness of individuals to change the way they consume, however, food security will falter, most affecting poor communities whose livelihoods rely on agriculture.

His Excellency José Graziano da Silva, Director General of the United Nations Food & Agriculture Organization, and Her Excellency Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change, echoed Tobgay's concerns, agreeing that overcoming the challenges of climate change would require a united effort.

Bhutan's Example

Tobgay explained to the Summit that his country was not just carbon neutral, but carbon negative, and highlighted that this was because Bhutan's forefathers left a pristine environment in their wake. About 72% of the land is forest, with mountains, rivers and valleys all teeming with wildlife.

To continue this legacy of conservation, the country established the Bhutan For Life project. Funded by an endowment from the royal government and outside partners, the initiative aims to protect Bhutan's biodiversity, preserve its environment and serve as a model for other countries around the world. Keeping the forests pristine, Tobgay asserted, involves mitigation and adaption strategies to address climate change, helping those who live in the forest live more sustainable lifestyles and – most importantly – collaborating with the rest of the world.

"The idea is if we succeed, and we must succeed, we are at least a role model, a pilot for the rest of the world, and we will give the basis for other countries and other institutions to collaborate to look after their own forests," Tobgay said.

Addressing The Issues

According to da Silva, the way food is produced as well as peoples' attitudes toward it are important issues to consider. Production methods that use natural resources more efficiently need to be developed, as agriculture uses about 70% of the world's fresh water supply. For consumers, food waste must be addressed. One of the ways individuals can cut wastage in their own homes, he suggested, is by accurately assessing their capacity for food storage.

Governments must work together and commit to sharing knowledge and existing technology with the world's poorest farmers, which could help lift them out of poverty, da Silva advised. He also called for increased financial support, especially for smaller farms, and new research to tackle the effects of climate change, such as increased salt concentrations in river delta areas caused by rising sea levels.

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**The Paris Agreement**

Espinosa highlighted that the Paris Agreement on climate action was an almost universally welcomed move to address climate change. Since it was introduced in December 2015, 195 countries have ratified the agreement, pledging to reduce the global temperature increase by 2° C from pre-industrial levels.

This was an encouraging step, said Tobgay, as increasing temperatures are already having an impact in his own country, where glacial lakes have overflowed and caused floods due to melting glaciers. He feels heartened by the fact that "195 countries have come together with one purpose in mind, which is to commit to fighting climate change and reducing global temperatures".

Climate change affects all aspects of food security, Espinosa added, but it is also affected by food waste. She echoed da Silva's concerns, stating: "If food waste was a country, it would be the third-largest emitter of carbon dioxide."

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**FACTS & FIGURES**

- 2016 was the hottest year on historical record, and the third consecutive record-breaking year
- One-third of all food produced is currently wasted, at a cost of \$2.6 trillion
- 767 million people worldwide live below the poverty line
- 70% of the world's fresh water is used for agriculture
- If food waste was a country, it would be the third-largest emitter of carbon dioxide

THE EXPERTS' RECOMMENDATIONS

- Governments, international organisations and individuals need to work together to reduce food waste and act against global warming
- Increased financial support and new research are required to address challenges caused by climate change
- Consumers should assess their storage capacity to cut down on food waste in their own homes
- Governments must share knowledge and technology with the world's poorest farmers to help lift them out of poverty
- Food production methods that use natural resources more efficiently need to be developed

**HE Yukiya Amano** (Centre)

Director General of the International Atomic Energy Agency

Philippe Jamet (Right)

Former Commissioner of the French Nuclear Safety Authority

HE Amb Hamad Al Kaabi (Left)

Permanent Representative of the United Arab Emirates to the International Atomic Energy Agency, Moderator

The Future Of Nuclear Energy

In a panel discussion moderated by His Excellency Ambassador Hamad Al Kaabi, His Excellency Yukiya Amano of the International Atomic Energy Agency (IAEA) and Philippe Jamet, former Commissioner of the French Nuclear Safety Authority (ASN), agreed that there is immense potential for nuclear energy, but at the same time a note of caution is needed in how it can be deployed safely and gain social acceptance around the world.

The Growing Demand For Nuclear Power

According to Amano, future demand for more nuclear power exists all around the world, not just in developed nations. Globally, approximately 30 countries currently have plans for acquiring reactors, and the IAEA sees worldwide growth of 2% at the very least by 2030, possibly rising to as much as 56% in its best-case modelled scenarios.

He explained to the moderator Al Kaabi, Permanent Representative of the United Arab Emirates (UAE) to the IAEA, that this demand is particularly driven by the fact that nuclear energy affects climate change far less than many other energy-generation methods. The UAE alone is currently constructing four reactors.

The Importance Of Safety

The nuclear industry has seen three major accidents in the last 40 years, Jamet reminded the audience – a track record that calls for modesty and caution.

He explained that safety is not only about prevention, just as the industry itself is not simply about building and operating nuclear plants. Major investment is also needed in the overall framework that surrounds operational safety – regulatory, legal and technical. In addition, nations that pursue nuclear power also need to be vigilant and prepare for emergencies, which involves civil defence, emergency services, hospitals and even agriculture and food production.

In agreement, Amano added that security was also an issue. In other words, it is important to prevent nuclear material from getting into the hands of terrorists. The IAEA is taking numerous significant steps in this area, including setting standards, providing training and also sharing detection equipment with customs forces around the world.



Tackling Nuclear Waste

The need to dispose of nuclear waste safely and cleanly was the final topic that the speakers addressed.

Amano debunked the myth that clean, safe disposal cannot be achieved. There are three types of waste: low-, mid- and high-level waste. It is only high-level waste and spent fuel that raises significant difficulties. For this, he explained how deep geological disposal is making good progress, with a facility in Finland due to open and be fully operational in 2022.

Jamet agreed, pointing out that deep geological disposal achieved the 'million year' guarantee that may otherwise seem daunting. He also connected the issue of waste back to the issue of social acceptance that the speakers had touched on earlier. Jamet advised it was important that long-term social acceptance be considered and built into any waste disposal method put into action: ideally up to 100 years' worth. This is because what one generation deems to be acceptable may not be to the next.

4 CHALLENGES OF NUCLEAR ENERGY

1. Social acceptance

In some cases, low social acceptance has delayed projects and even led to their cancellation. Work still needs to be done to transparently communicate the facts of nuclear energy. Jamet, who previously served as Director of the Division of Nuclear Installation Safety at the IAEA for three years, agreed that this remains a key area, particularly in countries such as his native France.

2. Financing

New ways to finance nuclear projects are being developed, which are vital to the sector's future success.

3. Capacity building

Although nations such as the UAE are investing well in training, globally more can be done. Amano highlighted the partnership between the IAEA and the UAE in training professionals as a model for other countries to learn from and adopt.

4. Safety

Both panellists agreed that safety was the most significant challenge of all.

440 NUCLEAR REACTORS
ARE NOW OPERATING
AROUND THE WORLD

31 COUNTRIES CURRENTLY
USE NUCLEAR POWER

**11% OF THE WORLD'S
ELECTRICITY** IS NOW
CREATED BY NUCLEAR POWER

60 NEW NUCLEAR REACTORS
ARE CURRENTLY UNDER
CONSTRUCTION

**Elon Musk** (Right)

Co-founder, CEO & Product Architect of Tesla Inc, Founder, CEO & Chief Technology Officer of SpaceX, Co-founder & Chairman of SolarCity

HE Mohammad Abdulla Al Gergawi (Left)

Minister of Cabinet Affairs & The Future of the United Arab Emirates, Chairman of the World Government Summit, Moderator

A Conversation With Elon Musk

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Being out there among the stars is important for the long-term survival of humanity

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Known around the world as the visionary who is redefining the future of mankind, Elon Musk sat down with His Excellency Mohammad Abdulla Al Gergawi, the United Arab Emirates Minister of Cabinet Affairs & The Future, to describe his vision of artificial intelligence (AI), which he believes will one day surpass the smartest people on Earth.

While Musk was emphatic that it is impossible to predict what the future holds, he shared some of his fears and aspirations. Never one to dream small, he said that he hopes people will become a multi-planetary species with the ability to live on other planets and travel to nearby galaxies.

Autonomous Vehicles

As the co-founder, CEO and product architect of Tesla, the pioneering manufacturer of electric vehicles that drive themselves, Musk claimed that in 10 years, it will be very unusual for cars to be built that are not fully autonomous. The technology exists already and is being fine-tuned. It would take 20 to 25 years to make enough autonomous vehicles to replace existing cars on the road, he said, during which time 12% to 15% of the global workforce could lose their jobs.

Space Travel

Musk explained the key to opening up space travel was the development of reusable rockets, an issue his business SpaceX seeks to address. This could bring the cost of interplanetary exploration down to levels similar to air travel, he said – something that is possible within the next 50 years. "Being out there among the stars is important for the long-term survival of humanity."

Beyond finding an alternative home to further the human race, he also said he was motivated by having a purpose to get up in the morning.

"If you consider two futures, one where we're forever confined to Earth

until eventually something terrible happens, or another future where we're out there on many planets, maybe even going beyond the solar system, I think that the second version is incredibly exciting and inspiring."

And Next?

Musk gave insight into his next technological pursuit, which has seen him digging tunnels under the city of Washington, DC in the United States. This, he said, is the solution to urban congestion problems in any city in the world – an underground network of tunnels, up to 50 levels deep. "You can always dig deeper than you can go up – the deepest mines are taller than the tallest buildings," he said. "If tunnelling technology can be improved to the point where you can build tunnels fast, cheap and safe, that would completely get rid of any traffic situations in cities. That's why I think it's an important technology."

10 YEARS: MANUFACTURERS WILL BUILD 100% AUTONOMOUS VEHICLES

25 YEARS: UNEMPLOYMENT RATES REACH 12% TO 15%

50 YEARS: SPACE EXPLORATION WITH MULTI-USE ROCKETS



3 CHALLENGES FACING TODAY'S GOVERNMENTS

1. Understand how scientists are developing artificial intelligence (AI)

Classing autonomous vehicles as 'narrow AI', Musk warned governments that they must understand the prospects surrounding, in particular, 'deeper AI', which concerns the development of technology that will become "smarter than the smartest human on Earth". "Scientists can get so engrossed in their work that they don't realise the ramifications of what they're doing. Governments need to ensure it doesn't represent a danger to the public," he said.

2. Find new and innovative ways of producing electricity

The movement towards sustainable transport will continue. While energy needs are currently split almost equally into thirds between transport, electricity and heating, Musk warned that demand for electricity was likely to triple.

3. Plan for mass unemployment

There will be fewer and fewer jobs that a robot can't do better than a human being, and governments must be prepared to implement a universal basic income for their people, rather than expecting them to compete for employment, Musk said.

"The output of goods and services will be extremely high. With automation will come abundance, and almost everything will get very cheap."

In addition to the financial consequences of such large numbers of people becoming unemployed in a short period of time, he warned the societal impact would be multi-layered.

"A lot of people derive their meaning from employment, but if you're not needed, how do you find meaning? We need to ensure the future is one we want, that we still like," he concluded.

3 SECRETS TO RECRUITING A WINNING TEAM

1. Gut feeling
2. Ask them the story of their life, the decisions they made along the way and why they made them
3. What was the most difficult problem they worked on and how did they solve it? The people who really solved the problem know all the little details

3 TIPS FOR SUCCESSFUL YOUNG ENTREPRENEURS

1. Study physics – it is the best analytical framework for understanding the future
2. Take the position that you are always, to some degree, wrong – your goal is to be less wrong over time
3. Push for critical feedback – don't accept it when people tell you what you want to hear

**Reid Hoffman** (Right)

Co-founder & Executive Chairman of LinkedIn, Partner at Greylock Partners

Fred Kofman (Left)

Vice President of Leadership & Organizational Development at LinkedIn, Moderator

One On One With Reid Hoffman

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As a leader, you should feel comfortable saying: 'We called this bit wrong, here is how we are readjusting'

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What can successful governments learn from the agile, entrepreneurial companies that have transformed not only the business landscape in recent years, but also people's everyday lives? According to Reid Hoffman, Co-founder and Executive Chairman of LinkedIn, there are five transferable aspects that governments could adopt from successful entrepreneurial businesses.

Speaking in conversation with Fred Kofman, Vice President of Leadership & Organizational Development at LinkedIn, Hoffman made it clear that the approaches of companies such as LinkedIn, Airbnb and Facebook share many similarities with the characteristics of successful, dynamic governments.

What Do Businesses & Governments Share?

Central to many of these businesses is the principle of providing ways for millions of people to connect and interact with each other. In that sense, they share a fundamental commonality with the role of government.

In addition, Hoffman stressed the importance of having a vision – in business, in government, in life. His personal vision is to help humanity evolve at scale, and for individuals and societies to have better paths to success. The company he co-founded, LinkedIn, is driven by the question, 'how do we help every individual make a difference in their own economic life?'

5 TRANSFERABLE APPROACHES

1. Taking risks

Risk-taking is an intrinsic part of most Silicon Valley success stories, yet it runs counter to normal government practices in many ways. All truly big ideas and good strategies, however, incorporate some element of uncertainty. Therefore adopting an attitude that embraces risk, along with policies

that manage it, can be a rewarding course for governments. Hoffman suggested a 'venture capital' style approach to ideas and initiatives, where a government tries several things, then pursues those that show promise and closes down those that do not.

2. Accepting failure as part of the process

With risk comes the possibility of failure. Again, governments need to embrace the fact that failures happen if they are to genuinely adopt the Silicon Valley mentality. Indeed, for many operating in the entrepreneurial sector, a past failure is seen as a positive. It shows you have learnt from what went wrong, and are now more likely to get things right. Governments should foster a culture where, for those people attempting big things, learning from failures is an acceptable path. "As a leader," Hoffman explained, "you should feel comfortable saying: 'We called this bit wrong, here is how we are readjusting'."

3. Knowing how to communicate ideas effectively

Good ideas are not always enough on their own. Just as businesses need to communicate and market an idea, so do governments. Hoffman related the story of his first company, a precursor of LinkedIn called Socialnet. While this was a great product, he and his team failed to get it to people in the right ways. For example, much time and money was spent partnering with a newspaper to promote the product, which resulted in five people signing up.

4. Learning from others

While learning from our own failures is beneficial, it is perhaps even better to learn from others. Hoffman explained how this mindset was essential to tech companies, and could be for governments. In his opinion, Silicon Valley is a success compared to other, similar tech hubs around the world because it incorporates entrepreneurial support systems and is at the intersection of business and technology, giving inventions commercial robustness.

5. Knowing how to continuously develop an idea

The final aspect that governments can learn from tech players is the need to continue growing an idea. In Hoffman's words, the true success story of Silicon Valley is not necessarily the 'start-up' culture everyone thinks of, but the 'scale-up' mindset that follows. The ability to continuously develop and grow ideas past their initial inception is vital. This could also apply to government policy – it is not just the initial stage that matters, but how that policy grows into genuine, long-term impact.

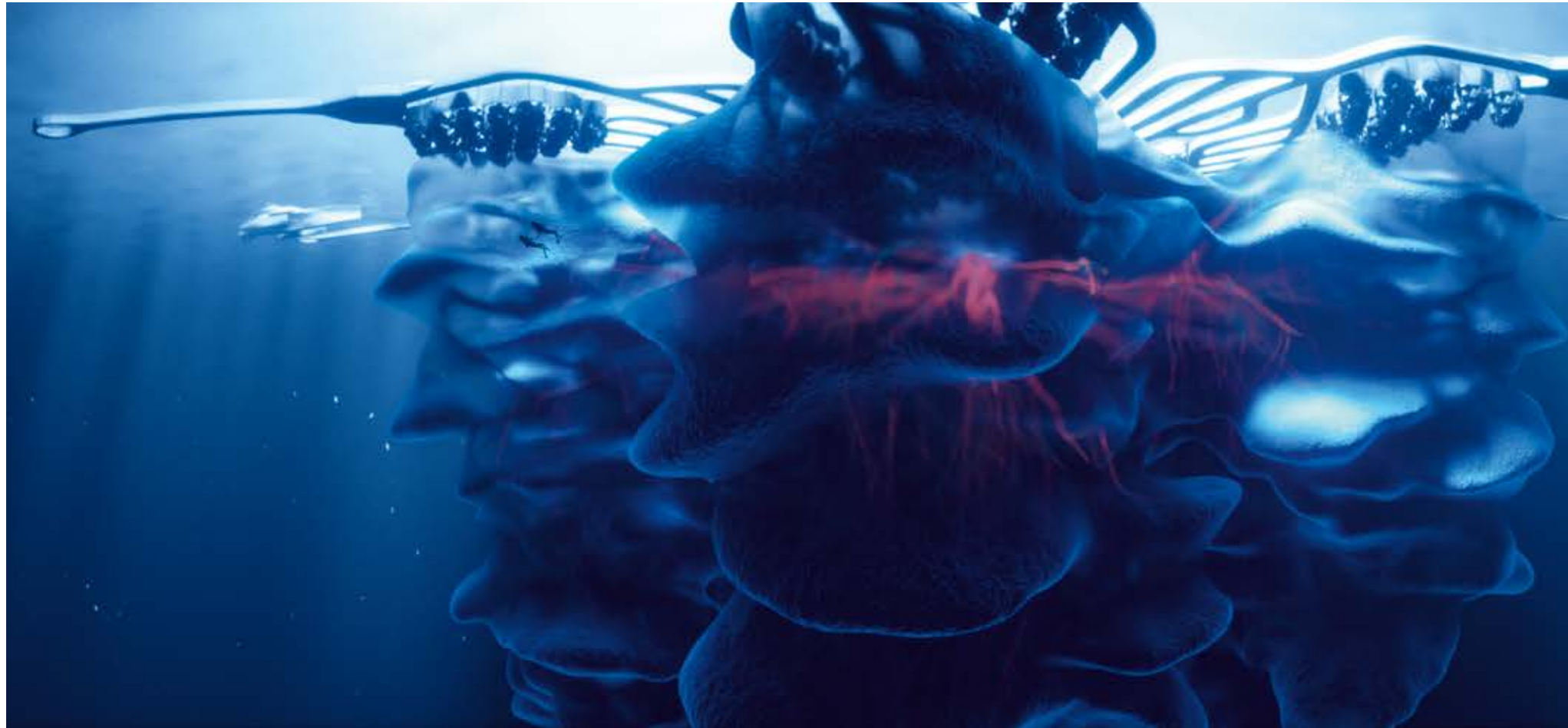
HOFFMAN'S ADVICE FOR SETTING UP A TECH HUB

- Think less in terms of setting up incubators, and more in terms of enabling networks
- Establish good, dense networks to help companies find talent, capital, expertise and customers
- Encourage the exchange of knowledge on global terms

TIPS FOR TAKING RISKS

- Risk-taking should not just be a slogan, but should be part of executives' performance management
- 'Dumb' risks are still unacceptable. There should be quality control
- Avoid the form of 'cheating' where risks are effectively solved before they are announced





Museum Of **The Future**

The Museum Of The Future has grown over the last four years, since it was first launched at the Summit, into the world's leading platform for design, technology and foresight. Each year, it explores a new aspect of how emerging technologies may affect important areas such as education, healthcare, transportation, energy, security and housing.



**John Chambers** (1)

Executive Chairman of Cisco Systems

John Defterios (2, Left)

Emerging Markets Editor for CNNMoney, Moderator

A Digital World & The Benefit For All People

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The challenges to going digital are cultural, and overcoming them starts with leaders who are willing to reinvent themselves

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The digital age is upon us, and how countries react and innovate now will determine their success or failure in the digital world. This was the message from John Chambers, Executive Chairman of Cisco Systems, as he explained to world leaders gathered at the Summit the importance of strong leadership and urged them to unite. Chambers went so far as to say that digitalisation would have a bigger impact on the world than the internet, and that it could even help to stabilise the Middle East region and lead to long-lasting peace.

"Digitalisation can transform every citizen in the world, but only with the right leadership. No government in the world can do it by themselves. There must be partnerships and the courage to really change the world together."

As the former CEO of Cisco, the world-leading IT and networking company, which he claimed was the backbone connecting 90% of the internet today, Chambers has played a significant role in enabling the company to survive, expand and innovate as the market has transitioned. Cisco has outlived many of its rivals, and Chambers believes this is because it carefully focuses on market transitions and has been willing to adapt. The understanding of just how nimble a company needs to be in recognising forthcoming trends is behind Chambers' forecast that 40% of companies around the world will not exist in 10 years.

"There will be a period of disruption where companies which do not reinvent themselves will be left behind," he said. Furthermore, he pointed out that 95% of CEOs claim going digital is crucial to their companies, but only 25% of them actually have a digital structure in place.

"In order for companies to succeed, they do not just need to think in small safe steps, but instead think about what's possible. The ability to have the courage to make changes is important to the future," he said.

The Impact Of A Digital World

Digitalisation and the digital world should not simply be perceived in terms of physical items, like drones and smart devices, rather Chambers explained that Cisco's innovation came from identifying needs rather than simply creating technology for technology's sake.

In the same way, the digital world can also be described by the kind of economic results it can yield. Every business, country, and even every city, can become digital, he explained, and the benefits of doing so could equal \$19 trillion worldwide. This includes a real GDP growth of between 1% and 3% for every country.

In the United Arab Emirates (UAE), for example, the potential value of digitalisation is between \$12.5 billion and \$2.2 billion in the public sector and \$10.3 billion in the private sector – over the next three years.

1



Chambers defined the digital world in terms of:

- **Education**
- **Growth**
- **Healthcare**
- **Inclusion**
- **Innovation**
- **Jobs**
- **Security**
- **Smart cities**

To succeed in a digital world, he warned, countries have to nurture a culture that is willing to change, and to embrace and learn from its failures. They must invest today in training young people to ensure their economic future. At the same time, children's digital skills should be developed from a young age.

"If you do not create an environment where young people in your region have an economic future, if you don't create an environment with a start-up mentality, you won't be able to achieve the job creation you need for the future," said Chambers.

A Courageous Leader

One of the key themes that Chambers repeated throughout was the need for a country to have a strong and courageous leader. The challenges to going digital are often cultural and "overcoming them starts with leaders who are willing to reinvent themselves". Chambers cited His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, Ruler of Dubai, as a great example of a leader who is leading his country towards digital reform, quoting Sheikh Mohammed's address in which he spoke of Arab revitalisation as an indicator that the UAE could become a role model for digitalisation in the Middle East.

2

**CHALLENGES TO BECOMING A DIGITAL WORLD**

- **Company culture**
- **Cooperation between silos**
- **Resources**
- **Security**
- **Linear not exponential thinking**
- **Reinvention**

HOW TO FAIL

- **Miss a market transition**
- **Don't use the right resources or apply them in an ineffective way**
- **Engage in linear instead of exponential thinking**
- **Fail to reinvent and maintain the status quo**

5 TECHNOLOGIES CHANGING THE WORLD IN 2017

1. **Internet of things**
2. **Artificial intelligence**
3. **Synthetic food**
4. **Blurring of the boundaries between the physical and the digital world**
5. **3D printing for all**



Travis Kalanick (Right)

Co-founder & CEO of Uber Technologies Inc

Becky Anderson (Left)

Anchor & Managing Editor for CNN Abu Dhabi, Moderator

The Future Of Urban Mobility

// We look at our work as serving cities, celebrating cities and making them better

//

20% OF GLOBAL CARBON EMISSIONS COME FROM CARS

4% OF ALL THE MILES MADE AROUND THE WORLD ARE DONE ON RIDE-SHARING SERVICES

BY 2030, 30% OF ALL MILES WILL BE MADE BY RIDE-SHARING SERVICES

PARKED CARS TAKE UP 20% OF LAND IN CITIES

6.2 MILLION GALLONS OF FUEL WERE SAVED BY USING UBERPOOL IN 2016

Driverless cars could eliminate reckless speeding, drunk-driving and general bad driving habits from the roads, the Co-founder and CEO of Uber Technologies told the audience of government leaders. Despite having run into difficulties with administrations around the world relating to the regulation of his services, Travis Kalanick shared his vision for the future of transport. He said the role of the regulator should be about "embracing the future, embracing progress and bringing progress to the people".

Kalanick stated that whereas 1.3 million people die from car-related incidents every year, and tens of millions are seriously injured, "when self-driving technology is out there in force, no more people will die in cars".

Kalanick acknowledged that progress potentially opens up new technical issues: "Once movement in cities becomes autonomous, there's going to be a whole set of interesting robotic and artificial intelligence challenges." Hence the rationale that investment and research into robotics will become a crucial part of Uber's future.

Not content with providing transportation in more than 500 cities worldwide, Kalanick said Uber sees its

future as more than just a car service. Focusing on the rise of driverless cars and the Uber food delivery service, he described how Uber eventually planned to become a robotics company, ultimately transforming the way people live, work, design cities and go about their daily lives.

Lack of space, air pollution and traffic jams are all problems faced by today's city dwellers. Having tapped into the trend of millennials who are shunning the tradition of owning a car, Kalanick explained that Uber satisfies the needs of the instant-access generation who wish simply to push a button to obtain a vehicle in five minutes, as and when they need it.

"We obsess over making cities better," he said, as he spoke about his vision to redesign the way transportation works in cities across the globe. The company's long-term focus is to perfect self-driving cars and make them a regular part of society.



Private Or Public Gain?

Kalanick said there is, or rather there should be, a complementary relationship between ride-sharing and the mass transit systems that already exist in cities. "We use private cars for a public good," he said. In the case of London, a system with a highly sophisticated mass transport system, 30% of all Uber rides begin or end at a tube stop. This shows that commuters are using public transport, but also using Uber as an additional tool to get them directly to their doors, where public transport cannot go. According to a 2016 quote from the American Public Transport Authority "the more people use ride-sharing services such as Uber, the more likely they are to use public transport".

Rise Of The Robotics

Kalanick said investment and research into robotics will become a crucial part of Uber's future as the company aims to transform people's lifestyles through robotic solutions. The shift to developing robotics does not mean an end to Uber as a car-sharing service, however. Ultimately, he stated: "Our mission is to bring transportation at scale to an entire city and all of the cities in the world."

2 CHALLENGES FOR UBER

1. Regulators

Uber is still having some problems working with regulators that are attempting to protect existing industries. Kalanick said, adding that this actually has the effect of outlawing competition. "It's human nature to resist change, particularly as progress happens faster and faster," but bringing the focus back to customer-driven service, he said the role of regulators should involve bringing progress to the people.

2. Cost

Uber's ambition is to make self-driving cars a common and viable reality. One of the main hurdles, however, is that when the first self-driving cars are released, the new technology means they will be very expensive. This has the potential to limit the market to the wealthy elite, which goes against Uber's aim for reliable, cheap, shared transport for all. Kalanick admitted that self-driving cars were a long way from being available to the masses, and said he believed only cities that

embrace ride-sharing would be able to use self-driving services. Uber's ultimate goal is to get self-driving to a point where transportation costs a fraction of the price it is today and is fully democratised so that anyone can use it at the push of a button.

UBER'S VISION

- **Build a complementary relationship between ride-sharing and public transit**
- **Make self-driving cars a common and viable reality**
- **Reduce transport costs to a fraction of what they are today**
- **Democratise the company's services so that everyone has access**
- **Transform people's lifestyles through robotic solutions**

**HE Alpha Condé** (1)

President of Guinea

HE Dr Mahamudu Bawumia (2)

Vice President of Ghana

Ashish Thakkar (3, Left)

Founder of Mara Group & Mara Foundation, Moderator

Leapfrogging Development: The African Story

In a panel discussion moderated by the young African entrepreneur Ashish Thakkar, His Excellency Alpha Condé, President of Guinea, and His Excellency Dr Mahamudu Bawumia, Vice President of Ghana, asserted that although the rest of the world has many misconceptions about Africa, the continent has great potential to 'leapfrog' development – or skip less efficient, more expensive, polluting technologies and move directly to more advanced ones.

The Case Against Afro-pessimism

Right from the beginning of the discussion, the panel identified perceptions versus reality as the overarching theme. "We often paint a distorted picture of Africa", Condé said. The rest of the world is quick to blame Africa when something goes wrong, and loathe to give the continent credit when things are going well.

Africa is largely underestimated by the rest of the world because it 'missed the first three industrial revolutions', but both leaders were adamant that it most certainly would not miss the fourth. As Thakkar put it: "We are not playing to catch up, we are playing to lead the way".

The Continent's Current Challenges

According to Condé, Africa's current challenges revolve around three main elements: energy, new technologies and infrastructure.

The first that needs to be tackled is energy, he said. Africa is rich in essential raw materials, and if it can harness its energy resources, Condé posited, the continent could replace China as the 'factory of the world'.

Dr Bawumia echoed Condé's opinion that Africa's development hinges on leveraging new technologies.

"Ultimately, what we are trying to do on the continent is to build a globally competitive economy," he said. "The only way we are going to leapfrog is to leverage on technology."

Africa has already been successful in leapfrogging mobile phone technology, Dr Bawumia pointed out, highlighting that the continent went from 25 million users in 2001 to 615 million by 2012. This major rise in mobile users provided a platform for companies, organisations and government entities to deliver services more effectively.

While he acknowledges that there is still much work to be done, Dr Bawumia is confident that the potential is there for Africa to make some incredible leaps in the near future.

Developing Infrastructure

Both leaders agreed that one of continent's biggest challenges was infrastructure, particularly between African countries. Intra-African trade stands at only about 5%, said Condé, which presents a huge area of opportunity. Realising this potential and facilitating an increase in trade between African countries requires adequate infrastructure, he stressed. Not only does this include things like efficient transport routes, but also soft infrastructure such as a unified African Union passport so that people can cross borders with ease.

Ultimately, it comes down to cooperation. "If we want to see Africa make progress in trade and economic integration... we need to reinforce cooperation between African countries and assume our own responsibilities," Condé emphasised.



Dr Bawumia also underlined the importance of soft infrastructure, particularly in regard to leveraging technology. "To be able to leverage on technology, every country must have some basics," he said, including identification cards, unique property addresses and financial inclusion.

Most African countries, he pointed out, are working to develop these 'pillars of soft infrastructure'. As an example of how some countries are approaching these issues, he described how his country has leapfrogged addressing systems.

For more than 60 years, Ghana has been working to establish an addressing system. In that time, they had only covered a fraction of the country, Dr Bawumia said. It was time for a new approach. Instead of continuing in the traditional manner, the institutions handling the project came together and devised a new plan – digital addressing. By the end of the year, Ghana aims to have identified every property in the country using the new smart system.

The Youth Of Africa

Dr Bawumia and Condé agreed that Africa's youth were the continent's greatest asset, but also posed a significant challenge.

Compared to the ageing populations of the world's great powers, Africa's population is incredibly young, Condé explained. In fact, approximately 80% of its citizens are under the age of 35. This is an advantage, the dignitaries argued, because these young generations are more comfortable using and advancing innovative technologies, which is essential if Africa is to leapfrog development.

This immense concentration of young people is also a concern, however. Both Condé and Dr Bawumia asserted that unemployment among the younger generations was a huge issue for governments across the continent, and one that must be addressed in order for Africa to catch up with countries in the West.

The only solution, they posited, is for Africa to become self-sufficient and to stop relying on external forces to fuel its development. Instead, the continent must take charge of its own progress.

"It is of the utmost importance that we rely on our own strengths," Condé explained, "We know that we have the means... Awareness, self-confidence and confidence in the future of Africa will be essential to achieving this goal."

Dr Bawumia agreed, adding: "We want to build resilient robust economies underpinned by good governance and sound financial policies."

3 PILLARS OF SOFT INFRASTRUCTURE

1. Identification cards for all residents
2. Unique property addresses
3. Financial inclusion

5 WAYS AFRICA PLANS TO LEAPFROG DEVELOPMENT

1. Harness energy
2. Implement new technologies
3. Improve infrastructure between African countries
4. Take charge of its own progress
5. Increase intra-African trade

**Fatima Al Kaabi (1)**

Inventor

Thomas Suarez (2)

Founder & Chief Engineer of CarrotCorp Inc

Omar Obaid Bin Butti (3, Left)

Presenter & Producer for Dubai One, Moderator

Innovation Belongs To Our Youth

How can young people turn their ideas and dreams into reality? How can the innovators of tomorrow start pursuing their dreams today?

The path to the future does not always come from wise, experienced heads. Often it is the young who see new ways forward: in technology, society, politics and environmental issues.

Two young pioneers – Thomas Suarez and Fatima Al Kaabi – have themselves taken that very journey. Still both in their early teens, they have not only invented breakthrough products in technology – from a super-fast 3D printer to a solar backpack – they have also shared their spirit of youthful innovation with their peers, through talks, seminars and school visits.

In a revealing and inspiring discussion, they shared their advice and insight. In the words of Emirati inventor Al Kaabi, their generation has a strong desire not just to be the generation of today, but also the generation of tomorrow.

10 POINT PLAN FOR YOUNG INNOVATORS

During the session, moderated by Emirati media presenter Omar Obaid Bin Butti, the two young adults related their own stories of innovation. This embraced everything from giving a TedEx talk aged 12, to pioneering a dozen inventions by age 15.

In relating their experiences, the pair covered several issues. These crystallise into 10 key learnings, creating a blueprint for innovators of any age and nationality.

1. Don't wait

Al Kaabi urged young people not to delay, or feel they had to be older before they could contribute.

2. Collaborate

Suarez identified the internet, especially the open source movement, as vital. Its resources are a font of inspiration to build on, exchange and share.

3. Maximise your support

The backing of family and friends is vital, both speakers agreed. Having this at the start of your journey matters more than the support that floods in once you've started to 'make it'.

4. Don't be put off

Al Kaabi revealed that she had been teased at school for playing with screwdrivers rather than dolls, and that some teachers had even tried dampening her dreams. To her, determination in the face of doubt is a key asset.

5. Stay focused

Suarez added that, following his TedEx talk, he had been inundated with appearance offers – a path that, had he chosen it, would have obstructed the very innovations he wanted to pursue. "Opportunities can help, but stay true to the core of what you want to do."

**6. Learn from others**

In a further reference to staying grounded, Suarez pointed out he still runs the same school App Club he started three years previously, aged 12. "It's mutually beneficial to teach someone," he said. "They teach you, too."

7. Look beyond technology

Often innovation is seen as purely being about technology. Although both speakers work mainly in that field, Al Kaabi reminded the audience that innovation can happen in any area of life. Technology is often just a tool.

8. Find a purpose

Al Kaabi also urged young people not to innovate just for themselves. "Innovate for your country, for a problem you see – innovate for a bigger cause."

9. Look to leaders

The role of governments in fostering innovation was seen as critical by both. Suarez, from the United States (US), admired measures taken in the United Arab Emirates (UAE), such as appointing a Minister of State for Youth Affairs. Demonstrable support and motivation from leadership changes the mindset of young people, he said, so they then see innovation as – in his words – 'cool'.

10. Believe in yourself

In concluding remarks, both speakers stressed how self-belief is fundamental. Don't ever let someone tell you can't accomplish something, they told delegates – and find the drive within yourself.

MEET THE YOUNG INNOVATORS

Thomas Suarez, a 15 year-old boy from the US, made international headlines for holding a TedEx talk at the young age of 12. He already has several apps and software products to his name, has created a 3D printer 10 times faster than any other and set up his own company – CarrotCorp – which promotes the apps that he is creating for iOS, Android and Google Glass and also his ideas for revolutionising 3D printing.

Emirati Fatima Al Kaabi, aged 15, has also received considerable media coverage and awards, including the UAE Pioneers Award in 2015. To date, she has 12 inventions, including a solar bag that charges electronic devices and powers lights and fans, an electronic belt for the hearing impaired and electronic bracelets that will enhance security at Dubai Expo 2020.

**HE Saeed Mohammed Al Tayer**

CEO & Managing Director of Dubai Electricity & Water Authority

Innovative Electricity & Water Generation Projects To Improve Efficiency

//

We have adopted a holistic vision for the energy sector, covering issues such as energy security, energy efficiency, sustainability and its rational use

//

By 2030, 100% of Dubai's desalinated water will be produced using both renewable energy and waste heat, while 25% of its power will be generated via solar energy, His Excellency Saeed Al Tayer, CEO and Managing Director of Dubai Electricity & Water Authority (DEWA) said while revealing Dubai's ambitious energy plans for the future.

Solar-powered reverse osmosis is also set to reduce the expense of converting seawater into potable drinking water, he said.

Acknowledging the vital role energy plays in daily lives, Al Tayer emphasised that Dubai realises the importance of striking a balance between shifting to renewable and alternative energy and meeting the emirate's current and future energy needs.

Clean Energy Strategies

The United Arab Emirates (UAE) has pioneered the implementation of strategies to make renewable energy the largest share of its energy mix, Al Tayer said. He highlighted the UAE Energy Plan for 2050, launched earlier this year, which aims to increase the contribution of clean energy in the UAE's total energy mix to 50% by 2050.

He stressed that Dubai adopted a holistic vision for the energy sector even earlier, citing the Dubai Clean Energy Strategy 2050 which the emirate launched in 2015. This strategy aims to provide 75% of Dubai's energy from clean energy sources by 2050.

"This will transform Dubai into an international hub for clean energy and the green economy, and make it the city with the lowest carbon footprint in the world," Al Tayer said emphatically.

He listed several innovative projects to improve energy efficiency that would make cumulative savings of up to Dhs.60 billion in Dubai and also reduce carbon emissions by 200 million tonnes by 2030.

Going Solar

The Mohammed bin Rashid Al Maktoum Solar Park, upon completion, will be capable of providing 25% of Dubai's total power output by 2030, with a total capacity of 5,000MW, Al Tayer revealed. He said this would lead to the reduction of more than 6.5 million tonnes of carbon emissions annually.

The centre, with an investment of Dhs.500 million up to 2020, will have internal laboratories that include Unmanned Aerial Vehicles (UAVs), 3D printing, power electronics and energy efficiency, as well as a software lab and electrical and mechanical labs, Al Tayer said.

He added that it would also have external laboratories to test pilot projects, conduct field tests on new technologies focused on removing dust from solar panels and efficiently produce clean energy while simultaneously reducing costs.

Desalination

Al Tayer explained that Dubai currently desalinates water through a process called combined cycle co-generation, which uses waste heat created by electricity generation. This is efficient

and produces 67% of the water without burning extra fuel.

He stressed that by 2030, DEWA aims at producing 100% of its desalinated water using clean energy comprising a mix of waste heat and renewable energy. This will be done with solar-powered reverse osmosis (RO), which will further increase the production capacity and reduce costs.

"We will be able to produce 750 million gallons of desalinated water per day by 2030, compared to our current capacity of 470 million gallons," he envisioned.

Al Tayer projected that separating electricity generation and water desalination will increase efficiency and save up to Dhs.13 billion between now and 2030.

Storing Water Underground

Al Tayer disclosed that DEWA has been conducting field studies to explore the possibility of storing desalinated water from solar-powered RO plants in underground basins so it could be pumped back into the water network as it is needed.

Studies have shown that it is possible to store 5.1 billion gallons of water in this manner and that it has the potential to

save up to Dhs.9 billion by 2030, which is more cost effective than the conventional way of storing water in concrete reservoirs, he added.

Hydroelectric Power Station

He shared that DEWA was also constructing a hydroelectric power station as part of its plan to diversify its energy resources. This project, which will be operational in five years, will use the existing water stored in the Hatta Dam.

"The project will be the first of its kind in the GCC, with a total generation capacity of 250MW, and is expected to last between 60 to 80 years," he said.

Al Tayer highlighted how the UAE's interest in producing renewable energy has contributed to the decline of its global cost.

Citing a Japanese study published by the *Nikkei Asian Review*, Al Tayer pointed out: "Renewable energy is growing cheaper to produce, with bid prices for solar and wind-power projects in Europe and the Middle East dropping to levels comparable with coal-fired thermal power."

2030: 100% OF DUBAI'S DESALINATED WATER PRODUCED WITH CLEAN ENERGY

UAE ENERGY STRATEGY 2050: INCREASE USE OF CLEAN ENERGY IN THE TOTAL ENERGY MIX TO 50% BY 2050

DUBAI CLEAN ENERGY STRATEGY 2050: 75% CLEAN ENERGY IN TOTAL ENERGY MIX BY 2050

DEWA'S ACHIEVEMENTS SO FAR

- **Losses in power transmission and distribution networks reduced to 3.3%, compared to 6-7% in Europe and the United States**
- **Losses in water transmission and distribution networks decreased from 42% in 1988 to 8% in 2016, one of the lowest in the world**
- **Efficiency of fuel consumption in generation has reached a record 90%**

3 AIMS OF THE DUBAI CLEAN ENERGY STRATEGY 2050

- 1. 7% of the city's energy from clean energy sources by 2020**
- 2. 25% by 2030**
- 3. 75% by 2050**

**HE Mattar Al Tayer**

Director General & Chairman of the Board of Executive Directors
of the Dubai Roads & Transport Authority

Self-Driving Transport: Global Challenges & Opportunities

// Technology isn't for the advancement of machines. It's for the progression of people

//

As driverless cars and other modes of automated transport become reality, people will need to be persuaded to relinquish the joy of driving and be convinced of vehicle safety standards in order for self-driving transport to become practical, not just possible.

Summing up both global progress and specific projects in Dubai, His Excellency Mattar Al Tayer, who heads Dubai's Roads & Transport Authority (RTA), set out the steps taken to date, and those that lie ahead, in order for that lofty goal to be realised. At the outset, he declared himself an enthusiast for the technology, believing it will bring a better life for all, especially for the elderly and those currently less able to drive cars.

The Current State Of Affairs

Driverless vehicles are not a new idea. Studies and research began decades ago, and in recent years software companies have entered the field, accelerating progress significantly. This includes Apple investing \$10 billion in its iCAR, alongside companies such as Daimler, Volvo and of course Tesla. Current testing is at levels 4 and 5 on a scale identified by the Society of Automotive Engineers, which can be described broadly as:

- **Level 0 – A conventional vehicle with no automation**
- **Level 1 – A conventionally driven car that helps by automating a single task, such as cruise control**
- **Level 2 – The car performs tasks such as acceleration/deceleration and steering, but a driver is still required to monitor the environment and respond to unexpected events**
- **Level 3 – Currently commercially available technologies, where driverless cars can travel substantial distances but may need conventional driving at certain points**

- **Level 4 – A vehicle that can operate autonomously, but only within a specified area**
- **Level 5 – A vehicle that travels completely without the intervention of a human**

To date, world governments have spent more than \$600 million to support research, and private companies have invested far more. Key centres for the technology include Singapore, California, Michigan, Taiwan and Sweden. But there are still some serious challenges facing self-driving transport, he explained.

4 CHALLENGES OF SELF-DRIVING TRANSPORT

1. **Infrastructure requirements, including accurate mapping and clear road markings**
2. **Laws and legislation, including insurance and determining responsibility in accidents**
3. **Safety and public acceptance**
4. **Technological challenges, such as controlling multiple sensors on multiple vehicles**

Dubai's Self-driving Transport Strategy

In Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai, has launched the city's self-driving transport strategy. This aims to make 25% of all journeys in Dubai smart and driverless by 2030.

Unlike many other nations and cities, the government here is spearheading the transformation towards smart transportation, rather than the private sector. It is also building partnerships with universities, research centres and private companies. Dubai's vision is a non-profit one – which, for Al Tayer, brings a heightened chance of success.

The Strategy's Progress

The strategy has already witnessed the launch of the EZ10 electric shuttle, the region's first driverless car. It is, however, very much a multi-modal strategy that embraces metro, tram, bus, taxi and marine transportation, as well as private cars. Significant advances have been made in many of these already, especially the metro and tram systems.

Al Tayer pointed out that the Dubai Metro currently carries 600,000 passengers a day. The driverless approach has proved to be 6.4% better in terms of punctuality than comparable 'driven' systems in other global cities, as well as 7% lower in operational costs. He also related how, when the network had first launched in 2009, passengers had been wary of its driverless concept – to the extent that during the first six months, people posed as pretend drivers to reassure riders.

The plan is already realising an annual benefit of more than \$6 billion through lower transportation costs, fewer demands for stops, carbon footprint reduction and lower accident rates.

Public Reception & Future Plans

Dubai conducted an opinion survey of 1,200 passengers who had ridden in self-driving car trials, which revealed that:

- **95% of respondents were satisfied with the journey overall**
- **96% were satisfied with the safety aspect of the vehicles**
- **85% felt that self-driving cars would reduce accidents**

The city isn't stopping there either. It is also working on autonomous aerial vehicles, and – having successfully trialled these already – hopes to have such a vehicle in the near future.

8 FOCUS AREAS OF DUBAI'S STRATEGY

1. **Enacting laws and legislation**
2. **Enhancing driver behaviour and acceptance of the technology**
3. **Establishing driver and vehicle licensing parameters**
4. **Revising the structure of liability and insurance regulations**
5. **Fulfilling infrastructure needs**
6. **Combatting cybercrime and protecting data**
7. **Connecting vehicles**
8. **Providing high-density mapping**

4 AIMS OF DUBAI'S STRATEGY

1. **25% of all journeys to be smart and driverless by 2030**
2. **12% reduction in pollution**
3. **50% reduction in the infrastructure of parking spaces**
4. **12% reduction in traffic accidents**



**HE Freddy Ehlers Zurita** (First Left)

State Secretary for the Presidential Initiative for the Construction of a Society of Good Life of Ecuador

HE Ohood bint Khalfan Al Roumi (Second Left)

Minister of State for Happiness of the United Arab Emirates, Vice Chairman of the World Government Summit

HE Alenka Smerkolj (Second Right)

Minister for Development, Strategic Projects & Cohesion of Slovenia

Becky Anderson (First Right)

Anchor & Managing Editor for CNN Abu Dhabi, Moderator

Happiness: A Serious Business For Government

Government officials from the United Arab Emirates (UAE), Slovenia and Ecuador talked with CNN's Becky Anderson about what their countries are doing to instil happiness in their citizens.

Happiness In The United Arab Emirates

Her Excellency Ohood bint Khalfan Al Roumi's unique role in the UAE Government was created a year ago when she became the nation's first Minister of State for Happiness, with a mission to promote a positive attitude in government and society.

Al Roumi believes happiness is an integral part of any government, and she has already overseen many changes to improve the lives of citizens. She has a clear understanding of what makes people happy and constantly works with that in mind to create a harmonious society in the UAE.

She explained: "We understand happiness is a personal choice and it cannot be mandated or forced on people. The role of the government is to create the enabling environment and find the right conditions. If kids are well educated, if you have good hospitals, a job to go to every morning and if you go

about your day feeling safe and secure, if you can get government services to treat you with dignity and respect you feel you have hope for the future."

These points are crucial for Al Roumi, and it is her primary aim to make people feel better about their lives. She described how her focus on creating a happier nation is built on three pillars.

THE UAE'S 3 PILLARS FOR A HAPPIER SOCIETY

1. Instilling happiness

The UAE Government aims to weave happiness into every aspect of life, both internally for employees and externally for customers and society at large. This has prompted the government to create 60 chief happiness and positivity officers, who have been trained at the University of California, Berkeley in the United States and the Oxford Mindfulness Centre in the United Kingdom, to work in their happiness centres. Their job is to create a positive environment by being 'happiness champions' and contributing to each individual customer's happiness.

2. Measuring happiness

By measuring how happy an employee or a customer is through rating its services, the government can see what is working well to promote happiness and what areas have room for improvement.

3. Promoting happiness as a lifestyle

Al Roumi believes that many people are in pursuit of happiness but they are unsure how to achieve it. The government hopes to empower them through knowledge, the community and media, so they have a better understanding of happiness and can take charge of it in their own lives.

Slovenia's 2050 Happiness Goal

The government of Slovenia has also embarked on a journey to try and find out what makes its citizens happy.

While the country and its residents have a lot to be positive about, Her Excellency Alenka Smerkolj, Minister for Development, Strategic Projects and Cohesion, said life satisfaction in Slovenia is low overall. To remedy this, the government has set out to discover what makes Slovenians happy and change the country for the better by 2050.



By surveying Slovenians about what they want, the government plans to make happiness a key part of life over the next three decades and beyond. So far, results have shown people find happiness in their environment and existence.

Although plans to build a person's happiness in Slovenia are at an early stage, the government has partnered with the United Nations (UN) and already has a strategy in place to achieve its ambitious goal. Taking advice straight from its people, Slovenia will focus on lifestyle changes, a better economy and protecting the environment.

"We went around the country and included hundreds and hundreds of people, so we now believe we have a common point as a society of how we want to live," Smerkolj explained.

Smerkolj said her country was 'very lucky' that its strategy came at the time of the UN's 2030 Agenda – a plan of action for the planet, people and prosperity – which will further support Slovenia's efforts.

Ecuador's Plan For Happiness

Ecuador hopes to bring happiness to a new generation by giving every child a copy of *A Book Of All The Children* to help them understand values and virtues, believing it can offer a solution to the world's largest problems, explained His Excellency Freddy Ehlers Zurita, Ecuador's State Secretary for the Presidential Initiative for the Construction of a Society of a Good Life.

A journalist for more than 30 years, Zurita helped design the book, which is made up of inspiring stories and colourful pictures from around the world. Parents use it to tell their children a bedtime story, but also to instil in them important lessons about happiness, tolerance and well-being which are then reinforced in the classrooms of Ecuador's schools.

"Every child aged 8 and 9 years old received one and some are using it to teach values and virtues to their parents and teachers," said Zurita.

It is hoped that by setting good examples for children from an early age, they will be equipped with the tools necessary to live a happy life and avoid destructive influences.

HAPPINESS LESSONS FROM AROUND THE WORLD

1. The UAE

The government is focused on instilling and measuring happiness, as well as promoting it as a lifestyle. These three pillars inform the country's policy-making and provision of government services.

2. Slovenia

Based upon key findings from a far-reaching survey on what makes people happy, Slovenia aims to enact lifestyle changes, promote economic growth and protect the environment to help boost the happiness levels of its citizens.

3. Ecuador

Young people are the primary focus of Ecuador's happiness efforts. In primary school, children are given a book which teaches valuable lessons about happiness, tolerance and other values to help teach them how to live happy, fulfilling lives.



HE Sheikha Lubna bint Khalid Al Qasimi (Centre)

Minister of State for Tolerance of the United Arab Emirates

HE Amb Omar Saif Ghobash (Right)

United Arab Emirates Ambassador to Russia

John Defterios (Left)

Emerging Markets Editor for CNNMoney, Moderator

Co-Existing: **Transcending Borders** Of Culture, Race & Religion

At a time when religious extremism and populism are major international concerns, instilling tolerance in the youth is key to keeping radicalism and fundamentalism at bay regardless of region or religion. Her Excellency Sheikha Lubna bint Khalid Al Qasimi and His Excellency Ambassador Omar Saif Ghobash emphasised during their discussion with John Defterios of CNN.

Sheikha Lubna, Minister of State for Tolerance of the United Arab Emirates (UAE), highlighted how all world religions emphasise the love of people and humanity. She stressed that religions should focus on instilling tolerance in young people by passing on positive, uplifting values to future generations in order to combat extremism.

Ghobash, the UAE's Ambassador to Russia and author of *Letters to a Young Muslim*, also underlined the role religious sermons play in radicalisation. Religious institutions should focus on delivering only positive messages, particularly to young people, he said.

A Welcoming Society

As the world's first minister for tolerance, Sheikha Lubna asserted that having an open and welcoming society is key to building a strong, diversified economy, as it is this atmosphere which attracts the greatest minds and investors from around the globe.

She defined a welcoming society as one that offers good education for its residents, a high quality of life and an environment where all forms of worship are accepted and embraced. Citing the UAE as an example, she said: "In the UAE, it's a Muslim country but we have over 200 nationalities here, we have over 120 churches in the UAE, and Dubai alone has 71."

Religion & Radicalisation

An important topic addressed in this discussion was how religion, and Islam in particular, can be hijacked by extremists. According to Sheikha Lubna, instilling tolerance from a young age and ensuring religious messages are delivered with their spirituality and values intact are both key to combatting radicalisation.

"All religions talk about not only the love of God, but the love of people and humanity... When you approach religion,

don't take it by text and verses but take the values in it and present it beautifully to the generations that come," she said.

She cautioned the delegates and government leaders in attendance not to take their countries' inherent values for granted, especially in today's volatile times, and reiterated that the youth should be at the core of everything a government does. While children and teenagers may be sitting in the living room with their family, they can still be isolated and 'live in a world of their own'. Sheikha Lubna pointed out that "the vulnerability of influence for radicalisation can actually hit them in their house while you are not aware of it as parents".

Ghobash agreed with Sheikha Lubna's observations, again emphasising that the way in which religious institutions deliver their messages is crucially important, particularly for young people. Religious messages should be positive and tolerant, he asserted.

Citing the UAE as an example, he described how the government stepped in to realign the way sermons were delivered, doing away with the aggression and negativity that was present in the 1980s and 1990s.

Today, when young people go to the mosque, they are instead presented with positive and uplifting messages, he said, adding that it was a choice worthy of emulation in other countries.

Letters To A Young Muslim

Asked about his interpretation of how radicalism is so closely linked with Islam in many parts of the world, Ghobash said it was a matter of perception and identity in the "ways in which we define ourselves as Arabs and as Muslims".

While extremists may look at Arab and Muslim youth and see followers to be instructed in their faith, he preferred to "think of the 300 million Arabs as individuals with lives, plans and hope".

Ghobash explained that when he was a teenager, he was trying to navigate the modern world using outdated conceptual tools and frameworks. As an adult, he said he's found that progress still has not been made to bridge this gap. This inspired Ghobash to write *Letters to a Young Muslim*, which addresses many of the questions he had as a teen and introduces a framework through which young people can approach religious texts and authority in general.

Looking Toward The Future

Defterios voiced concern over the present nationalist and populist fervour in the world and asked whether it would make things worse in the coming years. To this, Sheikha Lubna replied: "I'm an optimist and I think we should move away from being defensive toward Islam by being positive, by sending out the right message."

She concluded by reiterating the importance of focusing on the youth: "In order to reduce the negative rhetoric, you need to tap into building and contributing to the well-being of the youth."

3 TRAITS OF A WELCOMING SOCIETY

1. Provide good education
2. Offer the opportunity for a high quality of life
3. Accept and embrace different forms of religious worship

3 WAYS GOVERNMENTS CAN COMBAT RADICALISATION

1. Cultivate a welcoming and open society
2. Keep the youth at the centre of everything they do
3. Ensure religious institutions and places of worship are delivering positive messages



**HE Reem Al Hashimy**

Minister of State for International Cooperation of the United Arab Emirates

Shaping The Future Of International Development Cooperation: The UAE's Foreign Aid

// Only through working together will we be able to achieve the shared vision of a better world //

The Government of the United Arab Emirates (UAE) is dedicated to building a better world and helping other countries in desperate need of support.

Announcing the launch of the UAE's Foreign Assistance Policy, Her Excellency Reem Al Hashimy, the UAE's Minister of State for International Cooperation, demonstrated how the new initiative will achieve this goal.

The ambitious project is "powered by the principle of partnership and collaboration" and aims to promote global peace and prosperity by working alongside other countries. Al Hashimy vowed to continue the UAE's role as a 'thought partner', a position she feels will help provide an innovative and resilient approach to foreign aid.

What Would A Better World Look Like?

Al Hashimy is also the Managing Director for the Dubai World Expo 2020 Bid Committee, Chairperson of Dubai Cares and has been a cabinet minister since 2008. She has a clear vision in her mind of what a better world will look like. It is more stable and more tolerant, she asserted, adding that the improved world is a place of peace and prosperity, is better at stopping wars and leaves no one behind.

"It's one we all aspire to and want," she said. "It would see girls and boys, men and women alike, thriving, dreaming, developing, learning, succeeding and persevering."

5 PRINCIPLES OF THE FOREIGN ASSISTANCE POLICY

The government has created five key principles for its new policy to show what it would like to achieve in the long term.

- 1. Fostering a spirit of collaboration**
- 2. Addressing neglected issues**
- 3. Building on the UAE's unique characteristics and capabilities**

- 4. Focusing on programmes that are driven by results**
- 5. Continuing to innovate on projects throughout**

Al Hashimy pointed out: "If our Foreign Assistance Policy is able to emulate the growth patterns of our nation then this will be a decisive step in the right direction towards achieving a better world."

6 PROGRAMMES TO PROMOTE GLOBAL PEACE & PROSPERITY**1. Country partnerships**

The first strand to the UAE's new policy will involve the country building full-scale, multi-year foreign assistance partnerships with selected countries. They will be chosen based on a model that identifies 'where the need is most' and where the UAE Government can use its skills to be most effective. Those involved in the scheme will include 'aid orphans', or countries which have previously been neglected by donors and fragile, conflict-affected states.

**2. Global thematic programmes**

This particular programme will focus on transport and urban infrastructure, the trust residents have in government and its effectiveness, and the protection and empowerment of girls. The UAE aims to do this by bridging the infrastructure deficit in low and middle-income countries and developing entrepreneurial and educational options for women. Al Hashimy views this final point as "the only driving force for broader economic and social development" and highlighted her pride in the UAE for becoming the first Arab country to close the education and attainment gender gap.

3. Humanitarian assistance

This element will increase aid response to major crises, including refugees, and will champion significant efforts to address neglected and forgotten emergencies around the world.

4. Support countries in poverty

According to Al Hashimy, no country has ever managed to propel itself out of poverty by development aid alone, but the fourth element of the policy will aim to address this by empowering the private sector. By using their strengths as a diversified, globally competitive frontier market, the UAE aims to accelerate a 'pro-poor' economic opportunities programme in developing countries to ensure it reaches even the poorest nations.

5. Build on partnerships

This will involve the UAE increasing the depth and breadth of engagement with multilateral institutions and international partners with whom they can develop their experience.

6. Technical assistance

This is perhaps the most relevant to the Summit as Al Hashimy said it is based on the UAE's own development experience, which was accomplished in a single generation. In collaboration with international partners, the UAE has already

harnessed these lessons and used them to create a technical assistance programme. Based on priority areas of infrastructure, energy and government effectiveness, it will develop knowledge sharing with other countries to increase effectiveness when it delivers assistance.

Al Hashimy's Outlook

The minister is positive the UAE's Foreign Assistance Policy can be achieved through collaborating with other countries and believes it is those nations which are thriving that can help the most.

She concluded: "In the work we have achieved together, we have seen all too often how fragile life on this planet can really be. We should not be deterred by this fragility but it should remind us that we have a responsibility to look after our people and after our future, and only through working together will we be able to achieve that shared vision of a better world."

**HE Helen Clark**

Administrator of the United Nations Development Programme

Main Address: **Where Is Happiness On The Global Agenda?**

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Money is an important contributor to our well-being, but it is, of course, far from being everything

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Across the world, organisations are talking about happiness and human well-being as they look for alternative ways of measuring development.

Bhutan has developed sophisticated indicators for happiness, while the government of the United Arab Emirates has appointed the world's first Minister of State for Happiness, and the United Kingdom has been collecting measures of happiness and well-being to inform policy-making.

Her Excellency Helen Clark, the Administrator of the United Nations Development Programme (UNDP) and former Prime Minister of New Zealand, welcomed those efforts as she began her address.

This wider focus on human happiness has helped to broaden conversations about what human progress and welfare really means, she said, and it is a

reminder that although money is an important contributor to well-being, it is far from being everything.

More Things In Life

Since 1990, the UNDP has been reporting on human development and has used an index to allow comparisons between countries. The index is a composite, taking into account both material and non-material aspects and including education, health and income.

When it was designed and brought into use, the index helped to 'broaden conversations' about development and progress beyond the traditional focus on the economic measure of GDP. It showed, Clark said, that "there are more things in life".

Her home country of New Zealand, for example, featured fairly low down on an economic measure of success, placing 32nd in the world when it comes to per capita gross national income. In human development terms, however, New Zealand ranked just ninth, with high life expectancy and high expectancies for the length of time people would spend in school.

"When thinking of what development advances mean, so many are still drawn instinctively to that measure of economic growth – what I call the tyranny of GDP. But actually, the quality of growth matters a lot," Clark said.

"Whether it's inclusive and sustainable has a major impact on human development and well-being, and paying more attention to happiness should be a component of our efforts to achieve both human and sustainable development."

A greater focus on happiness could change policies in many ways. One such change came in Chile in 2012, when the UNDP's human development report argued that if subjective well-being really was one of the country's development goals, it should be addressed in policy.

In response to that, the country's Ministry of Education designed a new syllabus for Year 10 and Year 11 students. That syllabus pays greater attention to pursuing personal welfare, encouraging young people to think not just about a job, but about what kind of life they would like to lead and how they could go about achieving it.

Mental Health

When it comes to happiness and well-being driving policy decisions, mental health is an obvious area for action, Clark said.

A recent study, which brought together findings from low, middle and high-income countries, showed that 18% of adults – almost one in five people – had experienced a mental disorder of some kind within the previous year.

The global burden of mental health is also rising, and depression is now the world's second-leading contributor to the length of time people live with disability, she added. Despite these stark figures, mental health has rarely featured in conversations about development until recently.

"In many parts of the world shame, stigma and the absence of enough mental health care and diagnostics mean that there are few options for those in need of services," the administrator emphasised.

More needs to be done for people all over the world who suffer from severe mental illness, who are marginalised, discriminated against and face seeing their basic human rights taken away.

Agenda 2030 & The SDGs

For the next 13 years, global development conversations are going to revolve around the United Nations' Sustainable Development Goals (SDGs) set out in its Agenda 2030 – and those goals include the improvement of both happiness and well-being. Crucially, Clark said, these goals put people at the centre of sustainable development and they take into account the need to balance the three dimensions of development – the economic, environmental and social.

The goals have been designed with the aim of making sure all human beings can enjoy 'prosperous and fulfilling lives' and to ensure that economic, social and technical progress happens 'in harmony with nature'.

Two key aspects of Agenda 2030 are health and governance – both of which are fundamental to human development and happiness, and deal with considering the economic, social and environmental aspects. Clark said: "If poverty, hunger, poor housing, lack of access to education and toxic environments can be overcome, then health will improve."

She concluded, adding: "If we are serious about improving human well-being, we must also be serious about achieving this wide range of Sustainable Development Goals."

KEY POINTS

- **Money is important to well-being, but it is far from being everything**
- **Happiness and well-being must help drive policy decisions**
- **Mental health should feature more prominently in discussions about development, and more must be done to help those struggling with mental illness**
- **If governments are serious about improving well-being, they must be serious about achieving the SDGs**
- **The SDGs put people at the centre of sustainable development, and balance the economic, environmental and social dimensions of progress**



The Future Of Abu Dhabi & Dubai

During the World Government Summit 2017, visitors were transported more than 30 years into the future using state-of-the-art virtual reality (VR) technology. The VR experience aimed to show participants what could be achieved if the United Arab Emirates leadership's plans and goals are attained.



**HE Mari Kiviniemi**

Deputy Secretary General of the Organisation for Economic Co-operation & Development

Main Address: Enabling The Future Of Successful Governments

// The scale and diversity of today's challenges mean we need to reflect on the future implications of policy decisions

//

In her opening address to the World Government Summit, former Finnish Prime Minister Her Excellency Mari Kiviniemi identified six characteristics the Organisation for Economic Co-operation & Development (OECD) believes are critical to governing effectively. These six characteristics have been developed through the OECD's enduring role as a global hub for governance and, more recently, through its close partnership with the government of the United Arab Emirates (UAE).

Kiviniemi, who was the second female Prime Minister of Finland, leading the nation between 2010 and 2011, before becoming Deputy Secretary General of the OECD in 2014, acknowledged that it may seem paradoxical to focus on the future given the pressing nature of so many problems today, but she stressed

that in fact now is very much the time to anticipate, to think ahead and to take action.

This is especially true, she added, against a backdrop of slow growth, rock-bottom trust, high unemployment, rising inequality and a deteriorating global security situation. She described each of the characteristics in turn.

Act With Transparency

While not a new idea, this quality is perhaps more important than ever given the levels of public distrust in many governing institutions around the world. Kiviniemi's advice was that government executives should reach out to parliaments and judiciaries in order to ensure good, open governance and progressive growth.

React Smartly To Challenges & Complexity

The key to this, she proposed, is continuous innovation. Innovation is a vital quality for a future-focused government to possess. For that reason, the OECD has co-authored a report, entitled *Embracing Innovation in Government*, which was published during the Summit.

Kiviniemi cited the example of leaders in Mexico City, who had decided to tackle the fact that their public bus service had no data visibility on traffic conditions, despite carrying some 14 million riders every day – leaving its passengers to rely on word of mouth. Using GPS, just \$15,000 and 400 volunteers over a two-week period, the city managed to generate enough data to completely map the entire system, enhancing the service's performance for all.

Increase The Inclusiveness Of Women & Youth

This is especially vital in regions where it lags noticeably behind not just global best practice, but global norms, Kiviniemi asserted.

Female participation in the workforce in the Middle East and North Africa (MENA) region, for example, is just 22%, compared to the OECD global average of over 50%. Likewise, while the emerging generation of Arab youth is better educated and connected than any that has gone before it, much still remains to be done to provide these young people with meaningful employment opportunities. Similarly, a significant proportion of those women

who achieve university degrees in the MENA region do not stay in the workforce or pursue their careers.

Governments have a key role to play in addressing this, Kiviniemi stressed, citing another OECD best practice report recently produced in partnership with the UAE Government, *The Gender Balance Guide*. This report offers a comprehensive set of guidelines and concrete actions aimed at helping UAE organisations adopt a gender-sensitive approach at their workplace.

She also mentioned the pioneering work that has been done by the government of Tunisia in the inclusiveness of women, such as the 2016 amendment which ensured women have equal representation in local politics.

Participate

Governments need to engage thoroughly in public life, Kiviniemi emphasised. Doing so helps to empower people to create their own futures.

Enhance Well-being

Kiviniemi identified well-being as the ultimate role and purpose of any government, including those operating at city and regional levels, not just national. These institutions represent 40% of government expenditure in OECD countries. As such, they have a vital role to play in both partnering national governments and in giving citizens a voice.

She related the work of leaders in cities such as Toronto in Canada and Santa Monica in the United States, where citizens had been canvassed on the well-being factors they wanted to see prioritised. She also applauded the World Government Summit for holding numerous sessions which focused on citizen happiness.

Rebuild Trust In Institutions

Restoring trust is critical for future governments to be able to serve their people in the ways those people want. Neither any group of people nor any place should be left behind in this, Kiviniemi stressed, adding that this factor applies to all institutions: local, national and international.

6 KEY RECOMMENDATIONS FOR SUCCESSFUL GOVERNMENT

1. Act with transparency to rebuild public trust and ensure good governance
2. React to challenges and complexity with innovation
3. Increase the inclusiveness of women and youth, especially in regions where this may lag behind global averages
4. Participate and engage thoroughly in public life to encourage people to create their own futures
5. Enhance the well-being of citizens. This is the ultimate role of any government, including those at city and regional levels
6. Rebuild trust in institutions in order to serve citizens better



**HE Krista Kiuru** (1)

Member of the Parliament of Finland

HE Prof Mohammad Thneibat (2)

Former Deputy Prime Minister & Minister of Education of Jordan

Dr Zhang Minxuan (4, First Right)

Former President of Shanghai Normal University

Gwang-Jo Kim (3)

Director of the United Nations Educational, Scientific & Cultural Organization in Bangkok

Safaa El Tayeb El-Kogali (5)

Education Practice Manager for the Middle East & North Africa of the World Bank Group

Kim Ghattas (4, First Left)

International Affairs Correspondent for BBC, Moderator

Leading The Way In **Education:** What Can Governments Do?

An international panel comprised of representatives from Korea, China, Finland and the Middle East tackled questions surrounding the role of the private sector in education, where in education governments should focus their efforts and the notion of a universal curriculum. Their intriguing discussion, which was moderated by BBC's Kim Ghattas, focused on four main issues:

- 1. The importance of early childhood development**
- 2. The value of sharing approaches**
- 3. The extent to which employability should be education's purpose**
- 4. The role of the private sector**

The Importance Of Early Childhood Development

The panel agreed wholeheartedly that early years education is the stage most in need of government attention. There are both financial and 'brain science' arguments for this, with a study cited by Her Excellency Krista Kiuru, who previously served as Finland's Minister of Education & Communications, showing how one year of education at this age is worth seven later in life.

If this period is missed, it is hard to get it back, agreed Safaa El Tayeb El-Kogali,

the World Bank Group's Education Practice Manager for the Middle East and North Africa (MENA). She pointed out that in the MENA region, just 30% of children under the age of eight are enrolled in educational systems. The main barrier is access. Indeed, 90% of those with the financial means to attend preschools do so; it is those who are left out that the region's governments need to help.

She also added that such help is not necessarily building classrooms or deploying technology. The main focus should instead be having enough quality teachers at this level.

His Excellency Professor Mohammad Thneibat, Jordan's former Deputy Prime Minister and Minister of Education, added that a stable and secure country is another key prerequisite – something almost a third of Arab nations lack. Equally, in some Arab nations education simply is not a high priority.

The Value Of Sharing Approaches

Kiuru described the education system in Finland, which is globally recognised as a benchmark. There, children do not enter a formal school environment before the age of seven. Prior to this, the emphasis

is on learning through play. She counselled, however, that other nations should not just look to adopt this, or any other model, blindly. Each region needs its own solution.

Dr Zhang Minxuan, a scholar of comparative education, advocated the importance of cross-fertilising ideas as an alternative. Every year, his university in Shanghai exchanges teachers with peers from Finland, the United Kingdom, the United States and Singapore. This example proved that while it may not be possible to directly parallel models, nations can enlighten one another.

El-Kogali agreed, adding that she felt that teaching shared values held more potential than a universal curriculum.

Employability As Education's Purpose

Despite its reputation as a successful educational model, the Finnish system nonetheless struggles to convert this into high employment rates. At 20%, Finnish unemployment is higher than many comparable developed nations. Kiuru said this was a growing concern in her country and other nations, and is perhaps justification for another radical rethink of their system – just as the



current solution had been when introduced 50 years ago. Such a new model could be more about stimulating students and equipping them with the skills today's society needs.

Gwang-Jo Kim, who played a key role in restructuring the entire Korean educational system, agreed that education needs rethinking for the new knowledge-based economy, but warned the audience that they should not see this as its only role. Education should not just be about competition for future employment, but also about collaboration and cooperation, he said. He cited a United Nations Educational, Social & Cultural Organization (UNESCO) report that identified four pillars of education: learning to do, learning to know, learning to be and learning to live together. Of these, he said he felt too much focus was paid to the first two.

Dr Minxuan pointed out that the Chinese educational system had also once been obsessed with achievement. Even though this was changing, he advised governments not to overload school systems with objectives and to be 'future-focused' in preparing students for the careers of tomorrow.

Governments also had a duty to ensure that students are happy, he said.

UNESCO'S 4 PILLARS OF LEARNING

- 1. Learning to do**
- 2. Learning to know**
- 3. Learning to be**
- 4. Learning to live together**

The Role Of The Private Sector

Governments must stop being the providers of education, said El-Kogali. They should instead focus on creating the environment for education by setting standards and letting others provide.

Prof Thneibat explained how this was increasingly the case in Jordan, where doors have been opened to private sector and non-profit organisations. It is even more so in Asia, Kim added, where many countries rely on the private sector.

A note of caution was sounded by Kiuru, however. In Finland, education is still seen as a public service. There, resistance to the idea of education as a business exists because accessibility can then be at risk. If schools start to become unequal, 'school shopping' emerges among parents.

El-Kogali agreed: involving the private sector should not exacerbate inequality in an education system. Tools such as scholarships and public-private sector partnerships help with this. In conclusion, she said that equal possibility should always underpin equal accessibility.

KEY RECOMMENDATIONS

- Governments should devote the most time and attention to early childhood education**
- Countries should not blindly adopt an education model practised elsewhere, but should learn from these existing models to develop one of their own**
- Teaching shared values has more potential than instituting a global curriculum**
- Education systems need to strike a balance between preparing students for a career and promoting their happiness and well-being**
- The private sector is essential, but it must work in partnership with governments**

**Robin Sharma**

Author & Leadership Expert

The Anatomy Of A Future Leader

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Your job as a leader is to inspire people to do work they have never done, to own talents they have never discovered and to allow the bigness within them to see the light of day

//

Anyone can be successful and everyone is capable of genius-level work, according to the motivational speaker Robin Sharma, who advised leaders how to get the best from their teams in his Summit address.

Footballers Lionel Messi and David Beckham, Apple revolutionary Steve Jobs and ice hockey hero Wayne Gretzky did not succeed overnight, he pointed out. They worked hard day after day, week after week, to perfect their trade.

Sharma, a former lawyer from Canada, who has authored numerous books on leadership and consulted with some of the world's big corporate brands, said that there was no denying they each have a gift. That gift, however, is their devotion and determination to reach a perfect standard, rather than an innate

talent in their field. Each has devoted countless hours to their success and it is this dedication and aspiration for perfection that leaders must possess if they are to rise to the top. Furthermore, he claimed everyone has these gifts and can develop them in the same way if they have the motivation.

Leadership Without A Title

While his examples showed foresight – Wayne Gretzky commenting that he didn't skate to where the puck was, he skated to where it was going, and Steve Jobs saying he could see around corners – they weren't naturally talented.

"They stripped away distraction over an extended period of time and their brain kicked in to create a Pharmacy of Mastery which everyone in this room is capable of doing," stated Sharma, who specialises in the inclusive idea that anyone can be a leader. He calls this 'leadership without a title'.

Leading without a title in this fashion, Oseola McCarty did not hold office or run a country, but she was an inspirational leader to many. By using the washerwoman as an example of how ordinary people can achieve great things, Sharma explained how McCarty,

now known as a famous benefactor to the University of Southern Mississippi, spent years putting every last cent she earned into a bank account in her native Mississippi. She lived in poverty throughout her life and knew nothing but deprivation, however, without ever caring what was in her account, she saved \$150,000 throughout her life. When a bank manager asked what she would like to do with her small fortune, her decision was to give a portion to her niece and nephew and the rest towards setting up a scholarship for young African Americans to achieve their potential. She lived long enough to see her first scholarship student graduate and was honoured with the Presidential Citizens Medal by former President of the United States, Bill Clinton.

Sharma pointed out that McCarty's deposits in the bank over time showed how small daily improvements, when done consistently over time, lead to significant results.

"Leadership isn't really about a title; it is an approach; leadership is a way of being."

Sharma called this the 'mighty mission' – something every leader should be working to achieve to find greatness.



"If you look at all the great leaders, they had a mission – a mighty cause that was bigger than their life," he explained. "Do you want to overcome adversity, to deal with volatility, stay nimble and agile as a world leader and to own the game? Start discovering what your mighty mission is." The best leaders are always working towards a goal.

Another example is Joey Dunlop. When he was not winning motorcycling championships, he would drive to Romania to feed hungry orphans. As a result of his kindness and compassion, 50,000 people honoured his character and the way he lived at his funeral.

Sharma concluded with the summary: "Less ego, more results. Less taking, more giving. Less what's in it for me? More what's in it for the people I serve? Less lazy, more productivity."

How To Lead Your Team

Sharma, a motivational speaker for two decades, advised that the best leaders take their workforce's feelings into consideration and remain passionate about success. They must be "authentic, passionate, giving and caring" and they have got to "break down the silos and lead by example".

He told the leaders in government and business, who travelled from across the world to convene at the World Government Summit, that their energy and their emotions radiate through their organisations. What they say, people pick up and their team will model what they feel.

"We all want genius. We all want to be world class, be great leaders and live meaningful lives. Yet we are not thinking the thoughts, performing the rituals, or creating the environments that would result in a world class life and genius level of work."

SHARMA'S 5 STEPS TO DEVOTION**1. Be so good at what you do that they cannot ignore you**

Sharma recalled the quote from the comedian Steve Martin. People should always aim to stand out from the crowd.

2. Release yourself from your addiction to distraction

He warned the audience how an addiction to technology and social media is hindering their productivity.

3. Avoid the arrogance of success

Be humble and never forget the hours you devoted to becoming successful. Sharma explained: "When you are successful, become a better leader, work even harder, be even less entitled, study even more and innovate even more quickly."

4. Leave people better than when you found them

According to Sharma, the real role of leadership is inner work. Be energetic and look after yourself to live for a cause that is bigger than yourself.

5. Failure is greatness that's just waiting to happen

Leaders should forget about what has happened in the past and move on quickly. Instead of worrying about mistakes, learn from them and use them to achieve greatness.

**Prof Joseph Stiglitz (1)**

Nobel Laureate in Economic Sciences, University Professor at Columbia University

Naser El Tibi (2, Left)

Senior Producer & Presenter for Al Arabiya News Channel, Moderator

The Rise & Fall Of Global Economic Governance

// Societies with more inequality are more unstable and have, on average, less growth

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Nobel prize-winning economist Professor Joseph Stiglitz contradicted the old idea of 'trickle-down' economics, where booming wealth at the top naturally benefits those further down the economic scale.

To support his assertion, he cited statistics from Oxfam, an international coalition of charitable organisations working to end poverty. Every year, the organisation calculates how big a vehicle it would need to transport the world's richest people – those whose collective wealth equals that held by the poorest half of the world.

In 2014, that bus would have carried 88 people. By 2017, a minivan carrying just eight men would do the job.

If the theory of trickle-down economics, which has been largely discredited over the last 30 to 40 years, were true, the rest of the world would now be doing very well, Prof Stiglitz added, but instead the richest few have gotten richer and everyone else's wealth has stagnated.

"The gap between the top and the middle has been growing, and the gap between the top and the bottom has been growing even more," he said.

"In fact some people say it's trickle up, that money is going from the bottom to the top."

Why Is Inequality So Bad?

In the United States (US), President Donald Trump is blaming globalisation, which, along with technological change, has played a role in the widening wealth gap. Those roles, however, have been relatively small, and although they may have been significant in the 1980s and 1990s, that does not explain what has happened in the last two decades.

That, Prof Stiglitz said, is down to 'changing the rules of the economic game' through things like poorer enforcement of competition laws, weakening both the collective bargaining powers of workers and minimum wages, and weakening corporate governance rules.

As he argued in his own book, *The Price of Inequality*, unequal societies perform worse economically.

Inequality breeds political instability and political division, which leads to underinvestment in infrastructure and education – and that hits productivity. Inequality can be fixed, he said, but it will take more than a progressive



taxation system. Decision-makers will need a wider range of policy tools to make it happen.

How Has Inequality Contributed To Populism?

Several factors related to inequality have clearly contributed to the rise of populist politics, Prof Stiglitz said.

Firstly, there is a sense that 'the system is unfair'. When the economic crisis hit the US, the people who caused it were put in charge of fixing it. Bankers got a lot of help, but homeowners did not. "Millions lost their homes and their jobs, and they thought that was grossly unfair. And it was," he pointed out.

Secondly, there is a lack of trust. People expected the government to fix things, but it did not. When the recovery did finally come it overwhelmingly helped those already at the top. What is more, when those same people talked about things like globalisation, technological change and the financial markets, they said the benefits would 'trickle down'. That has not happened, cementing a deep distrust among a population which never saw the promised benefits.

What Happens Now?

As for what happens next, Prof Stiglitz said he was optimistic. Governments need to find a 'third way' between the government-run Iron Curtain way and unfettered markets. It needs to be the right 'third way', he said, and that will be different between countries.

The response inside the US in particular has given Prof Stiglitz even more hope. "There is a sense of solidarity that I have not seen, maybe since Martin Luther King 50 years ago."

During that era, there was a sense of unity about civil rights and equality of opportunity, he said. There is a similar sense today about a progressive agenda and the need for things like high-quality public education, healthcare and housing.

3 WAYS GOVERNMENTS CAN ADDRESS INEQUALITY

- 1. Taxation in many countries is unfair and regressive, with the wealthiest paying a smaller proportion of their income in tax than the poorest. Policy-makers need to enable workers in collective bargaining so they can drive up their wages**
- 2. Corporate governance rules will need to be strengthened and monopoly power circumscribed so that less of a company's profits go to its executives and more can be reinvested**
- 3. Governments need to look at education and find solutions to vast inequalities of opportunity. At the moment, the inter-generational transfer of advantage and disadvantage is so strong that Prof Stiglitz tells his own students the most important decision they can make is to 'choose the right parents'**

**Dr Martin Seligman**

Director of the Positive Psychology Center at the University of Pennsylvania

The Power Of **Being Positive**

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Happiness is a plausible, achievable political goal

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The idea that our primary goal should be to reduce human misery and suffering as much as possible is a political dead end, said Dr Martin Seligman, who is considered the founder of positive psychology. Instead, we should now target happiness as our ambition, he advised.

A leading psychologist for 40 years, Dr Seligman related how this fundamental switch in perspective is something he himself has gone through in his professional career. As a result, he is now working to put well-being and happiness onto the global political agenda. The main reason and benefit, he proposed, is that happy people are people who try, never give up and have hope for the future. All these are beneficial and vital qualities for a more innovative, prosperous and harmonious world.

Dr Seligman pinpointed three factors that have influenced why this shift in focus is happening now.

A Change In Perspective

Psychologists have changed their opinion on happiness. For the past 30 to 40 years, Dr Seligman explained, his profession had predominantly focused on depression and misery, rather than happiness. These 'negatives' were seen as things that could be tackled through various techniques and approaches. Happiness, by contrast, was felt to be something that could not be changed – a view largely stemming from a study of lottery winners, which had shown their 'increased happiness' lasted for three months at best before normal mindsets returned.

This belief, he argued, has turned out to be wrong. It is only in the past 10 years that the idea of affecting happiness at 'group' levels – school, corporation, country – and not just personal levels has emerged.

Measuring Happiness

Happiness can now be measured better than before. Whenever it was measured in the past, happiness tended to be assessed using questionnaires and tests. Both of these methods are fallible. With questionnaires, people tend to lie when asked to rate their happiness on a scale of one to 10, which he claimed was the result of 'reputation management'.

Similarly, tests are open to people 'gaming' them, even if that is for well-meant intentions. It is only through new tools such as social media monitoring that happiness and well-being are able to be judged effectively. Even better, this can be done pretty much for free.

Dr Seligman described the work of the World Well-Being Project. Every day, the programme combs through millions of social media tweets and posts across the globe, looking for the use of some 50,000 'perma' words that reflect happiness and unhappiness, such as 'proud' and 'accomplished' or 'disappointed' and 'upset'. The results enable governments, organisations, scientists and psychologists to profile numerous demographics in terms of happiness and then compare them.



Dr Seligman's positivity foundation has a website which enables anyone to build their own happiness profile over time, and then compare themselves to others around the world – for example, how happy is a male teenager living in London compared to a middle-aged woman in Dubai?

Dubai's Example

Dubai is setting the roadmap for governments. Dr Seligman applauded the pioneering work of Dubai's government, particularly in setting up ministries for happiness, youth, the future and tolerance. Each is vital, he said.

1. Happiness

There are clear parallels between happiness and consequences such as productivity and health.

2. Youth

What someone believes when they are young will carry through their whole life, making youth the key life stage at which to try and shape mindsets.

3. The future

He explained the correlation between 'the default network' of the human brain and our visions of the future. The two are one and the same, meaning that the brain is actually about the future. We are 'homo prospectiva', rather than homo sapiens.

4. Tolerance

Looking to tolerance, he showed how psychology has proven that humans are tribal by nature, and that tribalism is therefore one of the hardest challenges we face as a society.

The Importance Of Education

Dr Seligman concluded his talk by explaining how happiness should not only be on the political agenda, it should also be on the educational agenda. As an example, he described the work his positivity foundation is doing in creating a 12 month 'positivity' curriculum for all educational stages.

3 REASONS WHY HAPPINESS IS NOW A FOCUS

- 1. Within the last 10 years, psychologists have discovered that it is possible to affect happiness beyond personal levels**
- 2. More accurate, accessible and sophisticated methods of measuring happiness are now available**
- 3. Dubai has set the standard for governments around the world to focus more on happiness, tolerance, youth and the future**

**Dasho Karma Ura**

President of the Centre for Bhutan Studies & Gross National Happiness

Bhutan's Gross National Happiness Index

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In promoting happiness and related policies we should never forget the larger serious issues of the world

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Unhappiness should be a consideration in the measurement of happiness, the president of the Centre of Bhutan Studies & Gross National Happiness has advised other governments. Heralded as a pioneer in implementing happiness as a key government policy, Bhutan was among the first to conduct a national survey into happiness.

Dasho Karma Ura, who was named director of the centre when it was founded in 1999, and then president in 2008, explained that the main function of the country's *Gross National Happiness Survey* is not so much to understand what makes somebody happy, but rather why someone is not so happy. It seeks to discover which, where and why people are not happy, and what governments, organisations and the individuals could and should do to improve it.

He warned that any government that wishes to promote happiness and related policies should be careful never to forget the larger serious issues affecting the world and how they in turn upset efforts to promote happiness.

In Bhutan's case, he cited issues including colonialism, ruthless poverty, exploitation and war. Environmental concerns including climate change, biodiversity breakdown, overpopulation, competition for resources and the concentration of power in just a few countries also have an effect.

National Survey

There are numerous issues that have an impact on happiness, including subtle influences such as types of music and colour. Ura said that while work is an important indicator, as people spend a large proportion of their daily lives at work, existing literature tended to focus on the relationship between creativity and workplace productivity. Little research had examined the state of people's private lives.

Bhutan, therefore, put together its *Gross National Happiness Index* to look beyond the typical well-being

measurements and examined different indicators. In turn, the results were also quite different, he said. The survey measured 33 indicators which were weighted based on national and international benchmarks, and resulting in data which can even be broken down to district level. The top three responses when people were asked what would make them happier were family and relationships, good health and money. These findings have contributed to prominent goals in Bhutan's five-year plan.

Family & Relationships

Although being married or unmarried was not a crucial factor to happiness in Bhutan, if a person did get married but then became divorced, separated or widowed, the survey showed a detrimental effect on happiness.

"Nothing is more important than long, happy, dependable relationships," Ura said.

Good Health

Good health is also an important factor in attaining happiness and well-being, with Ura naming a work-life imbalance as responsible for high levels of stress, which lead to illness, and ultimately poor health and unhappiness. Despite the studies undertaken regarding happiness in the workplace, Ura emphasised the need to still limit work hours and ensure people have adequate time to sleep.

Does Money Make You Happy?

Ura discounted the response that money would make some respondents happier. More money does not actually correlate to happiness, he claimed. Nor is any one thing responsible for happiness. Few people are able to pinpoint five or six things that reflect 100% of their happiness.

"Happiness is not a yes or no," he said. "Everyone has some happiness, but the levels of it differ, as if it is a happiness gradient."

Influences On Happiness

The survey results showed that it was very difficult to have a significant impact on someone's happiness. While it has proved relatively easy to elevate people from unhappy to narrowly happy, reaching the top level of happiness has not yet been an attainable target.

Negative emotions were shown to play a major role in preventing happiness. Of the adult population in Bhutan, 10% of respondents admitted to suffering from anger once a week. In other words, 10% of adults are suffering from anger 52 times every year.

When you experience an emotion like anger, explained Ura, other feelings become completely drowned out.

The study showed that students in Bhutan were more likely to display negative emotions, while nuns and monks had the lowest propensity towards negativity.

Ura said this was not a surprising result, as monks and nuns are trained in their way of life, and taught values such as inner resolve. The drama of life as a 16 to 18 year-old, on the other hand, is something many young people are unprepared for.

TOP 3 THINGS PEOPLE SAY MAKE THEM HAPPY

1. Family and relationships
2. Good health
3. Money

THE SURVEY'S KEY FINDINGS

- Whether one is married or not does not have a significant impact on happiness, but going through a divorce, separation or the death of a partner after marriage has a detrimental effect
- No single factor is responsible for happiness
- It is fairly easy to elevate people from unhappy to narrowly happy, but incredibly difficult to dramatically change someone's level of happiness
- Negative emotions play a major role in preventing happiness
- Students in Bhutan are more likely to display negative emotions, while nuns and monks have the lowest inclination towards these feelings



**Dr George Friedman**

Founder & Chairman of Geopolitical Futures

Zeina Yazigi

Anchor for Sky News Arabia, Moderator

The **Next 100 Years:** Exploring Scenarios For Governments

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The world will need leaders prepared to challenge the norms of the past 70 years

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The twin solutions that shaped geopolitics since the end of World War II have now come to an end, according to leading geopolitical forecaster Dr George Friedman. In their place comes a new era of nationalism. A people's right to national self-determination is reasserting itself as the force shaping international relations.

Dr Friedman stressed that with this will come a number of challenges and opportunities. For example, there will be substantial internal instabilities in nations. New countries may rise on the world stage – such as Poland and Turkey. Moreover, we will need leaders who can look beyond those old solutions to find new approaches.

The World Since 1945

The two great wars in the first half of the last century changed the world. They not only left 100 million people dead, they redrew the global map, especially in the Arab region, creating new borders and even new cities.

They also gave birth to two fundamental beliefs, which dominated the world for 70 years:

- 1. We needed multilateral organisations, such as the North Atlantic Treaty Organization (NATO), the European Union, the World Bank and the International Monetary Fund (IMF), to bind us together. These institutions were, in addition, to be run by a new class of 'technocrats' – unelected and, to a degree, unanswerable experts meant to deliver us from our worst impulses**
- 2. Nationalism was a negative force that needed to be controlled so that it did not destroy us, as it had threatened to do in World Wars I and II**

This approach became the world's primary moral and political agenda. At its heart was the aim of a planet where those terrible conflicts would never be repeated, and it worked. As Dr Friedman pointed out, the last 70 years have been, overall, a time of great prosperity and relatively little conflict. In the history of the world, it was a good time to live.

**Dual Shocks That Changed The World's Approach**

All this changed in 2008. Two things happened in that year, just seven weeks apart.

- 1. Russia invaded Georgia and threw out the accepted preconceptions of what the world should look like. In addition, the international community did nothing to stop it**
- 2. Lehmann Brothers collapsed and the credit crisis engulfed the world. This suddenly revealed the financial institutions and technocrats we had placed our faith in were, in fact, trading in things they did not understand**

Although more than eight years have since passed, we still do not have credible solutions to either of these issues, according to Dr Friedman.

The Consequences Of Change

This lack of solutions has proved particularly severe in Europe, as has the resurgence of nationalism, which emerged as a result. As Dr Friedman described it, the great fantasy – a Europe where borders did not matter – was broken.

The main factor is that those shocks were not experienced in ways that were in any sense equitable. The technocrat class, for example, did fairly well; but a 45 year-old Greek citizen who lost his or her job will now never get another one like it. This imbalance was the key outcome, and it meant much of the population had just one thing left – a renewed belief in the right to national self-determination.

Looking Ahead

In Dr Friedman's view, the next century will be more like the 19th century than the 20th century. In that sense, the French Revolution and Enlightenment were right: there should be a community that binds us together in language, religion and history – this is what makes a nation, allows people to control their own fate in a democratic way and enables people to put themselves first.

THE RESULTS OF RENEWED NATIONALISM

- **Trade and international relations will still take place, but they will not be hardwired into the system**
- **Leaders will need to challenge the basic norms of the past 70 years because what was true then is no longer true now. They will also need to be strong, because it is complicated to be responsible for your own sovereignty**
- **There will be substantial internal instabilities in many nations**
- **Some countries will retain their global status, but others may fall and rise. Dr Friedman named Poland and Turkey as examples of countries for whom a new, more prominent era is dawning**
- **We should stop looking at GDP growth, and start looking at GDP distribution – this will tell us our future**

**Shawn Achor**Founder of GoodThink Inc, Author of *The Happiness Advantage*

How Can We **Stay Happy** In The Age Of Robots & Technology?

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Every business and education outcome improves when our brains are positive first

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Happiness is not defined simply by smiling or feeling pleasure. Shawn Achor, an expert in happiness, explained that there is a difference between pleasure and joy, and one can experience joy even when life is not pleasurable. In fact, people can 'train' their brains to be happy like they can train any other muscle.

People all over the world are depressed and struggling to find happiness, and Achor stressed that we must find a way to improve their well-being. He confessed that, despite being one of the world's leading experts on the connection between happiness and success, he also experienced depression for two years while he was a student at Harvard University.

He said he used the methods he had learnt studying happiness to help him overcome his problems, namely taking a positive approach, because viewing the world through a persistently negative filter will train the brain to keep that pattern.

How Can Happiness Be Achieved?

As part of his research, Achor visited paediatric hospitals and spoke to various doctors and patients. He was surprised to discover that a four year-old child with terminal cancer was more likely to reassure his or her parents that 'everything is going to be ok' than the other way round. This led him to wonder why there is a "resilience at childhood that we lose as adults, and how can we transfer that resilience to people who are struggling as adults?"

One solution Achor devised is called 'happiness hygiene' – thinking of three new things to be grateful for and why for two minutes every day while brushing one's teeth. Over time, these positive thoughts can dramatically change one's outlook on life and enable a person to become less pessimistic.

Happiness & Success

Studies have shown that 75% of job success is predicted based on ideas that are not taught in school, such as optimism, social connections and the way one perceives and handles stress.

Most people have the mindset that if they work harder they will be more successful. This is not necessarily true, asserted Achor, especially if the goal post of success changes each time it is reached. He argued that "every business and education outcome improves when our brains are positive first".

Only 10% of long-term happiness is based on factors that are separate from mental well-being, such as material possessions. This means 90% of an individual's happiness is based on their own perception, particularly how they internally process their income, work, country and family.

Achor said people often ask themselves, 'Does success lead to happiness?' Instead, the question they should be asking is, 'How do we achieve happiness?'

Happiness is the greatest competitive advantage in our modern economy, Achor emphasised. It raises every single business and education outcome, and it is therefore in the interest of every individual person, business and educator to pursue happiness.

Social Connection Score

Achor pointed out that people do not process the world alone. They co-process it with others because, as humans, they are wirelessly connected to one another through relationships, he said.

The greatest predictor of long-term happiness is not one's income or material possessions, it's their social connection score – the breadth, depth and meaning of their social relationships. He revealed that social connection is as much of an indicator of life expectancy as obesity, high blood pressure and smoking.

Positivity & Negativity

When a conservative risk analysis is conducted by looking at many problems of the world, the negatives are noticed first. If negativity continuously comes before the positives one perceives and experiences, the human brain can lose the resources needed to process the good in life, Achor explained.

Citing a study in which a student played the game Tetris non-stop and then became obsessed with patterns, Achor warned that "if you view the world through the same pattern for too long, your brain keeps that pattern even if it doesn't work for you".

The human brain is a muscle, and just like the other muscles that form the body, it needs to be trained and maintained, Achor concluded.

10% OF LONG-TERM HAPPINESS IS BASED ON EXTERNAL FACTORS

75% OF JOB SUCCESS IS PREDICTED BASED ON THINGS NOT TAUGHT AT SCHOOL

ACHOR'S 3 FUNDAMENTAL TRUTHS ABOUT HAPPINESS

- 1. Happiness spreads because people are all connected**
- 2. Happiness is the greatest competitive advantage in our modern economy. It raises every business and education outcome**
- 3. Scientifically, you do not have to just be your genes and environment. Happiness is a choice and it requires effort**

3 INDICATORS OF JOB SUCCESS NOT TAUGHT IN SCHOOL

- 1. Optimism**
- 2. Social connections**
- 3. How one perceives and deals with stress**



**Scott Atran**

Director of Research in Anthropology at the National Center for Scientific Research

Yasser Al Amro

Anchor for MBC, Moderator

Values & Dreams: Antidotes To Radicalisation

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Civilisations rise and fall on cultural ideas, not material assets alone

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Offering insight into the psyche of terror groups, renowned anthropologist Scott Atran explained that a committed belief in sacred values fused with a strong group identity gives rise to maximum willingness to fight, die, torture, kill and even lose one's family.

Interestingly, Atran pointed out that only about 7% of wars in recorded human history have been motivated by religion. Wars that do have a religious element, however, tend to attract more players and last longer.

Atran was among a group of academics and policy-makers who talked to members of the Islamic State of Iraq and the Levant (ISIL), Al Qaeda, Kurdish Peshmerga and Iraqi Army to understand three important questions:

1. Why are people willing to fight?
2. What makes someone resort to terrorism?
3. Why do they refuse to compromise politically?

He described terrorist movements as part of the dark side of globalisation, where a sense of community and spirituality have been pushed aside in the larger competition for dominance. In such circumstances, the values that typically motivate and bind people together are replaced with another set of sacred values, he stressed.

How Are Identities Fused?

Most people consider themselves to have many identities, which are typically defined by things like occupation, interests, religion and nationality. When one identity prevails over all the others, however, extremism arises.

As soon as self-identity is fused with group identity, a person begins to think of him or herself as invincible and encourage those around them to feel the same. They then become willing to make sacrifices they may not otherwise consider, he said, alluding to ISIL fighters.

When this concept of identity is combined with common sacred values or religious beliefs, it deepens trust, galvanises group solidarity and blinds members to an exit strategy, explained Atran, an anthropologist associated with France's National Center for Scientific

Research, Oxford University and the University of Michigan. "When these two things come together, then you have maximum willingness to fight, die, torture, kill and even suffer the loss of your family," he said.

Combatting Challenges

Atran, author of *Talking to the Enemy: Faith, Brotherhood, and the (Un)Making of Terrorists*, quoted former President of the United States (US) Barack Obama as saying that the biggest mistake was underestimating the will to fight among members of ISIL and overestimating the will to fight among the Iraqi Army. He cited studies conducted on the front lines in Mosul, Syria, which revealed that while people rated the US as having maximum physical force, ISIL won out as the maximum spiritual force.

Atran emphasised that the Islamic State revolution is a classic revolution, and simply calling it terrorism is 'delusional'. He pointed out that many of its leaders are well educated, and so merely promising them jobs is not going to solve the problem. People willing to sacrifice their lives will not be lured away by such material incentives. Atran urged the audience to consider alternative

dreams which current government policies could offer beyond grudging promises of comfort and security.

The best way to oppose destructive sacred values, Atran stressed, is to replace them with constructive ones.

Engaging Extremism

Counter engagement is key to combatting violent extremism. It is particularly important to actively engage the youth from within the community, Atran said, highlighting a couple of success stories from Pakistan.

Teenage sisters Saba and Gulalai Ismail founded Aware Girls, a women's advocacy group in north-west Pakistan which empowers and enables young women to act as agents of change to bring youth away from violence. So far they have succeeded in influencing over 10,000 young men who otherwise would have embraced violence, Atran said.

Ameena Hoti piloted peace-building classes in Pakistan where students learned about tolerant Muslim heroes like Mughal prince Dara Shikoh as examples of religious pluralists.

While there are many success stories, there is still much work to be done in order to engage the youth on a global

scale like ISIL does, Atran emphasised. It must be a transcendent message that gives an individual's existence significance beyond death, binds people together beyond perceived self-interest, and creates an enduring, peaceful progress towards the common good, he concluded.

4 CHARACTERISTICS OF SACRED VALUES

1. **Immune to material trade-offs**
People are unwilling to compromise sacred values no matter what incentives are offered.
2. **Insensitive to temporal and spatial discounting**
When it comes to sacred values, events and things in the distant past or future may be more valuable than the here and now.
3. **Blind to exit strategies**
People will not abandon these values no matter how reasonable or rewarding it might be.

4. Possess distinct brain signatures

Atran said that brain scans of supporters of the Al Qaeda affiliate Lashkar-e-Taiba in Pakistan revealed that people willing to die for sacred values show decreased activity in the parts of the brain associated with utilitarian reasoning.

KEY POINTS

- A committed belief in shared sacred values fused with a strong group identity produces a maximum willingness to fight
- While most people consider themselves to have a number of identities, extremism arises when one identity supersedes all others
- Sacred values are immune to normal cost-benefit trade-offs, so offering jobs or promising money is not a solution to radicalisation
- The best way to fight sacred values is to replace them with a different set of sacred values
- Counter engagement, particularly with young people, at a community level is key to combatting violent extremism



**Prof Arie Kruglanski**

Distinguished Professor of Psychology at the University of Maryland

Yasser Al Amro

Anchor for MBC, Moderator

Inside The Most Dangerous Minds

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We have to try to reduce feelings of insignificance through education and policy. Our governments have to understand the individual quest for dignity

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What drives thousands of people the world over to take to violent extremism, to pick up a weapon, risk their lives or don a suicide belt in order to kill others? These are the questions renowned social psychologist Professor Arie Kruglanski sought to answer by delving deep into the psyche of extremism.

Extremism, according to Prof Kruglanski, can be defined as the wilful deviation from general norms of conduct.

While he agreed that the various motivations for terrorism included honour, respect, the promise of heaven and the adoration of a leader, among others, the one underlying factor was the quest for significance and the feeling that we matter.

Are Extremists Insane?

A distinguished professor of psychology at the University of Maryland, Prof Kruglanski said this question comes naturally to mind because the behaviour of extremists – the atrocities they perpetrate – seems to be the work of sick minds, something sane individuals would never be able to do.

Surprisingly, however, the answer to the question of whether or not extremists are insane is in the negative. Research findings suggest that terrorists are neither schizophrenic nor depressed nor anxious nor psychopathic, he revealed. That does not mean they are normal either.

To understand this, Prof Kruglanski listed extreme sports like bungee jumping, extreme love like in the Hollywood film *Fatal Attraction* and even extreme humanity exhibited by activists such as of Mother Teresa, Mahatma Gandhi and Martin Luther King, Jr. While he admitted that comparing Mother Teresa's saintly, selfless behaviour to violent extremism may seem sacrilegious, he explained that despite the vast differences between different types of extremists, they all share a common psychological core.

This common psychological core is a kind of motivational imbalance that arises when a given motivation is so strong that it overshadows everything else. Anything that is performed to serve that motivation becomes permissible in the eyes of the extremist, Prof Kruglanski pointed out.

3 'N'S OF RADICALISATION**1. Need**

Prof Kruglanski shed light on several of the basic human needs determined by psychologists, namely the need for safety, survival, achievement, love and respect. He reasoned how these different needs inhibit one another, limiting extreme behaviour. "For example, you may all be very motivated to achieve, and that may push you to spend endless hours in the office and become a workaholic. However, the need for love and for human relations constrains that need, puts a brake on that need and leads most of humanity to achieve some kind of family-work balance." When one need becomes dominant, eclipsing all others, it creates the 'recipe for

HOW GOVERNMENTS CAN COMBAT EXTREMISM

- It is not only important to combat extremism on the field of battle, but also to prevent it
- The human mind is malleable and therefore governments should understand the individual quest for dignity and reduce feelings of insignificance through education, policy and idealism
- Create anti-violence networks because, according to Kruglanski, "to fight a network, you need a network"



radicalisation'. "And this, in our theory and in our evidence, is the quest for significance – the quest to matter, the quest to have respect, to have dignity," he added.

2. Narrative

He elucidated how this quest for significance can be channelled in different ways. He stressed that terrorists require a narrative, an ideological narrative, which suggests and justifies attaining significance through violence.

3. Network

As social beings, humans need their shared reality to be validated by friends, people they respect or charismatic leaders. This network then demands total commitment, Prof Kruglanski stated.

"These three 'N's, when they come together, form a combustible, explosive mixture that produces radicalisation – the need, the narrative, and the network."

One example of total commitment that Prof Kruglanski discussed was a member of the Black Tamil Tigers, the suicide unit of the Liberation Tigers of Tamil Eelam (LTTE) in Sri Lanka.

This LTTE member revealed how passion and loyalty to the group had left no place for love – for family, relationships and eventually for oneself. This total commitment emboldened him to even destroy himself in order to destroy others, he emphasised.

How Is The Quest For Significance Activated?

The extreme need to feel important is activated by a loss of significance, humiliation, disenfranchisement and discrimination, Prof Kruglanski said.

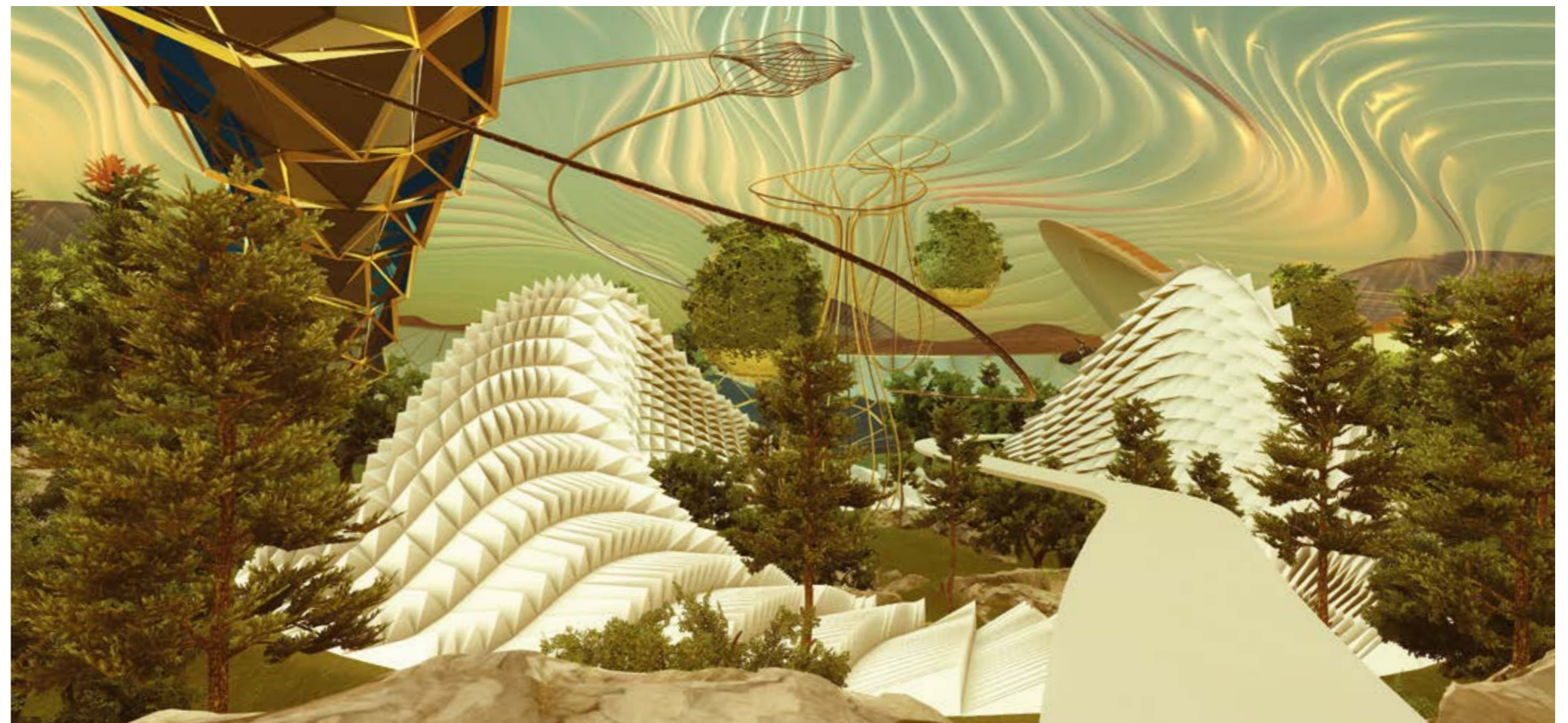
He elaborated that this loss of meaning could be personal, having nothing to do with any conflict, or it could be the result of a blow to your social identity. For example, if all Muslims, if all Tamils, if all Americans suffer, then you, as an American, as a Tamil, as a Muslim, feel degraded, Kruglanski explained.

It is this quest for significance that Al Qaeda, the Islamic State of Iraq and the Levant, and other propagandists arouse in potential recruits, urging them to enlist and fight for their purported cause.

The puzzle of extremism can be pinned to the three 'N's cutting across cultural and regional differences – Muslims in the Philippines and Indonesia, Tamils in Sri Lanka, neo-Nazis in Germany and white supremacists in the United States, Prof Kruglanski said.

Mars 2117

The ambitious target to establish the first inhabitable human settlement on Mars by 2117 was revealed among the innovative fringe events taking place around the World Government Summit. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates (UAE), Ruler of Dubai, accompanied by His Highness Sheikh Mohamed bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the UAE Armed Forces, unveiled the Mars 2117 programme and announced the UAE's intention to lead the initiative.



**Sir Richard Layard** (1)

Programme Director for the Centre for Economic Performance at the London School of Economics

Prof Jeffrey Sachs (2)

Special Adviser to United Nations Secretary General António Guterres on the Sustainable Development Goals, Quetelet Professor of Sustainable Development at Columbia University

Prof John Helliwell (3)

Senior Fellow of the Canadian Institute for Advanced Research & Professor Emeritus of Economics at the University of British Columbia

Richard Quest (4, First Left)

Anchor & Correspondent for CNN, Moderator

What Is The Future Of Happiness?

Sir Richard Layard, Programme Director for the Centre for Economic Performance at the London School of Economics, Professor Jeffrey Sachs, Special Adviser to United Nations Secretary General António Guterres on the Sustainable Development Goals, and Professor John Helliwell, Senior Fellow of the Canadian Institute for Advanced Research, sat down with CNN's Richard Quest to explore the concept of happiness.

During the panel discussion, the three educators, who have devoted most of their lives to researching what makes people happy, identified changes that governments and individuals can make to have a positive impact.

Why Does Happiness Matter?

Layard, who is also a board member at Action for Happiness, explained that most people started taking happiness seriously at the end of the 18th century. Society began associating happiness with the definition of progress, which was the single most important idea at the time. During that period, it was important that people were happy and enjoying their lives, and that there weren't too many people in misery.

This has to serve as a model for both governments and individuals today, he emphasised, to try and create more happiness in the world around us.

To help leaders measure and increase a person's level of happiness, Layard advised leaders to ask their citizens if they are satisfied with their lives, instead of merely enquiring if they are content with their public services.

Quest asked the panel if they believed the word happiness was really sufficient to describe what they were talking about. Prof Helliwell, an editor of the United Nations' (UN) *World Happiness Report*, asserted that it was very well suited for the purpose, as the word encompasses two different ideas that people easily understand: the emotion of happiness and the notion of a life well lived.

What Influences Happiness?

Prof Sachs, a senior UN adviser and best-selling author, suggested that promoting the happiness of citizens should be a central objective for governments. They should be trying to find out what is really important to people in society. If faced with a choice between promoting GDP per person or promoting happiness, governments

should choose the latter, he asserted.

Part of Prof Helliwell's research tapped into the *World Happiness Report*, which measured happiness through six core goals. He found that most people rank income and a healthy life expectancy as their main factors for happiness. The other four, which are social foundations for many across the world, consisted of freedom to make key life decisions, trust in government or industry, generosity and having someone to count on. He emphasised that this final factor is "absolutely central to human well-being".

Mental Health & Happiness

Mental health has a huge impact on happiness, Layard revealed, because of the discrepancy between the number of people who are suffering from a condition and how many are actually receiving adequate treatment.

"One in six adults in every society is suffering from depression and anxiety, and it is the single cause of misery in every country I have studied," he asserted. "But there is no country where even a third of these people are receiving any form of treatment."



Layard pointed to a pioneering treatment in his home country of England which is helping people control their own mental health. He said that it has helped people find work and mobilised the human spirit, but society still needs to make mental health a topic of conversation. An important step in treating mental illness is to first be able to talk about it, Layard insisted. Only when the issue of mental health is addressed will happiness levels see a significant boost.

How To Help Happiness

Prof Helliwell suggested that happiness can be affected very close to home if people focus on the things they can themselves influence.

"You really have to turn off the bad news and focus on the good things," he said. Many people put too much emphasis on government and the happenings in their nation's capital, Prof Helliwell explained, but it is very difficult to make a significant impact at that level. Individuals can, however, affect the happiness of the people they live and work with, as well as their own, which is precisely where they should be concentrating their effort, he advised.

Layard agreed, stating that he believes everyone in society has a large role to play in increasing happiness. They can do this by helping another person's well-being, rather than being happy at another person's expense.

Although people are being driven and encouraged to be happier than ever before, Prof Sachs revealed that there is no evidence to suggest that this has a significant impact on people past a certain point. For example, a \$500 increase in a person's salary has the same effect as a \$500,000 pay rise in terms of how it affects their overall happiness, he said.

"The best concept of what others would like you to do for them is help them to be happy," Prof Sachs suggested.

According to Prof Helliwell, the first step to happiness is merely making more of an effort to talk to one another. This simple act alone can have a significant impact on the happiness of a stranger, he said.

Prof Sachs agreed, adding that the move toward a happier world can be achieved easily as long as people remember that there is nothing preventing the spread of well-being.

3 WAYS GOVERNMENTS CAN AFFECT HAPPINESS

1. Ask citizens if they are happy with their lives
2. Address issues surrounding mental health
3. Establish promoting happiness as a central objective

6 KEY FACTORS OF HAPPINESS

1. Income
2. A healthy life expectancy
3. Freedom to make key life decisions
4. Trust in government or industry
5. Generosity
6. Having someone to count on

**HE Helen Clark** (1)

Administrator of the United Nations Development Programme

Dr Jad Chaaban (2)

Associate Professor of Economics at the American University of Beirut

Deborah Wetzel (3)

Senior Director for Governance Global Practice at the World Bank

Rolf Alter (4)

Director for Public Governance & Territorial Development of the Organisation for Economic Co-operation & Development

Ayman Al Sayyad (5, First Left)Editor in Chief of *Weghat Nazar* Magazine, Moderator

Enabling Youth To Shape Their Future

In Collaboration With The United Nations Development Programme

Young people aged 15 to 29 make up a third of the population in the Arab states, and those under 15 make up another third.

With such a large demographic wave pushing its way through the region, the challenge of engaging with, empowering and providing opportunities for young people is massive.

Her Excellency Helen Clark, Administrator of the United Nations Development Programme (UNDP), spoke alongside economist Dr Jad Chaaban, the World Bank's Deborah Wetzel and the Organisation for Economic Co-operation & Development's (OECD) Rolf Alter in a discussion moderated by the Egyptian writer Ayman Al Sayyad, to address this pressing challenge.

Engaging Youth

There is a school of thought, Clark explained, which says people are the real wealth of countries, so the goal of governments should be to expand their choices and realise their full potential.

In the Arab world, young people, particularly young women, face high unemployment, long waits to set up homes of their own, exclusion and

thwarted hopes. Development then requires strong engagement with young people, Clark said.

"Constructive engagement with young people is absolutely critical in laying durable foundations for the peace and development which people in every country of the region so badly desire."

Further, she said it must be recognised how badly young people have been affected by conflict in the region. Significant numbers have been displaced and deaths, bereavements, and the loss of years of schooling and livelihoods have reached a scale which could not have been imagined.

Combatting Conflict

Lead author of the UNDP's *Arab Human Development Report 2016: Youth and the Prospects for Human Development in a Changing Reality* (AHDP), the University of Beirut economist Dr Chaaban said since the first report was published in 2002, the Arab region has seen several major improvements from growing educational enrolment, to a decrease in extreme poverty and better health indicators.

In the same period, however, armed conflict has proliferated. In 2002, five out of the 22 Arab states were in conflict, but that figure has since climbed to 11. Meanwhile, economic growth has been very slow. The region also has one of the highest economic inequality rates in the world and almost no social mobility, which is itself more worrisome than the simple lack of growth, said Dr Chaaban.

The UNDP research also shows young people in the area have very low life satisfaction levels, and face other problems like complicated visa systems making it difficult to travel across the region for work or educational opportunities. Reforms to those visa systems are one of the improvements which would make life better for young Arab men and women, he said, but it is crucial that governments stop working in silos and step in with interventions for young people – in healthcare, the housing market, transport and services.

"Everything that other young people around the world enjoy, young Arab men and women should be able to enjoy," Dr Chaaban said.



He emphasised that achieving peace and stability must remain a core goal as well, adding: "We cannot live with conflict. All development planning and all development thinking is worthless if we have conflict."

Bringing Youth To The Table

The World Bank's *World Development Report 2017: Governance & the Law* looks at why it is so difficult to implement policies. Wetzel said they had found that without commitment, cooperation and coordination, even the best technical solutions and policies never really take hold, and this manifests itself in problems like exclusion. Governments then need to think about how they can 'bring young people to the table' and make sure their voices are being heard.

"Their ability to feel governments listen to them and respond to their needs is something we all need to work on quite a bit more," she emphasised.

"How can we make sure the young in society are able to express their views, hopes and dreams and have them become part of the policy arena?"

Opening Lines Of Communication

The problem of how to make sure young people are heard and understood is evidenced in the OECD's work as well, said Rolf Alter, who has worked with the organisation since 1991. It showed itself clearly when the OECD gathered eight government ministers around a table to talk to 22 young people. There was no dialogue, Alter said, and while the young people had ideas about what they wanted, the politicians' thoughts revolved around policy programmes and spending plans.

Young people first and foremost said they wanted to be listened to, so it is crucial that these lines of communication are opened and not taken for granted. In Alter's words: "If we don't talk to each other, we won't understand each other."

Further, Alter said decision-makers need to make 'youth-sensitive policies'. "We should be looking for a bit more sensitivity to youth in every decision we take," he added.

This means that if investment is going into education, policy-makers should think about the effect that has on young people and not only the effect it has on educational infrastructure.

3 CALLS TO ACTION FROM THE AHDP

- 1. Investment in the capabilities of young people through education, health, housing and social services, should be increased and improved so young people can enjoy a high quality of life**
- 2. An expanded range of opportunities must be provided for young people via entrepreneurship, freedom of expression and participation in civic and political life**
- 3. Young people's role in achieving peace and security needs to be built, as the United Nations' research showed that many young people want to be part of finding the solutions**

**Dr Tomoko Kitagawa**

Specialist in Japanese History, Visiting Scholar at the University of California, Berkeley

The Japanese Model In Diplomacy

// The position they were in at that time could be similar to many places we live right now

//

At the end of the 16th century Japan was at war. Yet lessons can still be learned from the women who managed to unify the country, stated a historian from the World Government Summit 2017's guest country.

Dr Tomoko Kitagawa, a specialist in Japanese history, told the story of the two lady samurai, Higashi and Nei.

With no government in place, the country's 250 domains each vied for power in bloody and fierce battles. The two women, however, used the 'power of the pen' rather than the sword to foster diplomatic negotiations.

The Power Of The Pen

Higashi came from a domain in northern Japan where her household acted as its government. It was fighting a rival home for power until a marriage was arranged for Higashi to take control and bring peace to the domain.

Dr Kitagawa told how the marriage brought solidarity until her husband passed away and Higashi's son decided to go into battle with her brother in a bid to take control. She chose not to fight, instead giving up her weapons and entering the battlefield in a carriage. Higashi spent 70 to 80 days inside her

carriage in the middle of the fighting grounds, writing letters to each side in the hope they would lay down their weapons.

According to Dr Kitagawa, this early act of diplomacy showed the unique value of using the 'power of the pen' as a negotiation tactic. After more than two months inside her fortress, Higashi's letters convinced the warring parties to reach a truce.

Nei's Story

Nei, on the other hand, was not from an elite family but gained power through marriage when she wed a foot soldier who initiated the unification of Japan. After winning many battles, Nei's husband rose quickly to the top of the power structure. With his success, she became Japan's original first lady.

Nei's letter writing began while her husband was still away at battle. In his absence, she was tasked with keeping everything in working order. Dr Kitagawa explained: "She was also a pacifist and used the power of the pen from her castle to contact her husband, who relied on her to assist in the unification of Japan."



Like Higashi, Nei chose not to take up arms and join the battles. She was instrumental in forging the nation nonetheless, and when unification was complete Nei continued to write in order to assist her husband in ruling the new country.

Continuity Of Conversation

On the surface, Nei's letters do not contain anything particularly extraordinary, Dr Kitagawa pointed out. The letters consist primarily of simple greetings, well wishes, expressions of gratitude and invitations to visit.

Although the content itself is seemingly unimportant, there was a reason why Nei continued to write these letters even after Japan's successful unification. Staying in contact with someone is a subtle yet effective act of diplomacy, Dr Kitagawa said. Nei wrote because the 'continuity of conversation' was essential to maintaining a good relationship with others in the newly formed nation.

Dr Kitagawa explained: "Diplomacy is an art; an art of continuing dialogues, so it is a constant effort and continuous conversation between the two. The letters, which may not have seemed

important, were actually very important in terms of making sense of diplomacy."

While the samurai orchestrated the unification of Japan, the lady samurai contributed in a significant way by writing letters that cultivated a sense of diplomacy within the new nation.

"Nei wrote for the stability of the new government, and by building firm connections with those who lived in remote places she helped to prevent unnecessary trouble and aggressions," Dr Kitagawa added. "We had never seen acts of diplomacy, especially by Japanese women, before this time."

Implications For Today

In the 21st century, established countries have taken the place of Japan's 16th century domains, but the forms and effectiveness of governments are still important topics of conversation, emphasised Dr Kitagawa.

"We are trying to create a global network that will provide us with long-term stability, a great network of independence and stability," she said. "We want to ensure fairness, independence, freedom and the safety of human beings. In a sense, we still share the concerns of the lady samurai."

The world may look very different today, but there is still much that people can learn from the lady samurai. They wrote to negotiate and avoid instability, sending out messages of trust and hope – something Dr Kitagawa believes is still relevant in diplomatic negotiations.

3 LESSONS FROM THE LADY SAMURAI

1. Acts of diplomacy can be as simple as friendly letters
2. Reaching out and building relationships with others is important in preventing instability
3. Messages of trust and hope are more powerful and effective than violence

**Morinosuke Kawaguchi**

Futurist, Innovation Expert & Founder of Morinoske Company Ltd

The Japanese Model In Behavioural Engineering

// Humanisation provides sustainability //

Strategist and innovation expert Morinosuke Kawaguchi examined how Japan has embraced its history and traditional culture within its present and future, teaching young children – without them even knowing it – a little about fairness and respect.

Blending Tradition & Modern Japanese Culture

Kawaguchi's presentation looked at anime, a mainstay of contemporary Japanese culture – also known as Japanimation – and orthodox Japanese culture and tradition.

Through the stylised animation, a multi-billion dollar industry has developed over the last 30 years, doing as much to raise Japan's profile around the world as industries including Sony, Canon and Toyota. According to Kawaguchi, three of the seven top-selling books in the world since the 1980s were Japanese comics.

Part of the commercial achievement has included the rise of cosplay, when fans of anime and comics dress as characters for events and conferences, which has taken off in countries around the world.

Modern Heroes, Old Rules

Dragonball Z is a popular cartoon and comic. The hero, Goku, defends Earth against a range of villains, eventually defeating them with his signature move, the kamehameha wave – an explosive energy attack, released through the hands while shouting its name.

Kawaguchi said Goku was representative of all anime heroes in shouting the name of his final attack, and that the story behind this was simply a reflection of Japan's own history, rooted in Sumo wrestling.

Three things are important to remember about Sumo, Kawaguchi said:

- 1. Unique among wrestling styles, Sumo has no variety of weight classes, meaning the smallest contenders can face the largest, but due to the frenetic nature of the sport, both stand a chance at winning**
- 2. Victory poses are prohibited, and can see a winning wrestler disqualified for showing a lack of respect**
- 3. The judge declares who won and how, by declaring the winning technique from one of 82 authorised moves**

Japanimation heroes shout their finishing move to explain to their opponent, and therefore the audience, why they are the victor – an important and meaningful process.

Street Heroes

Also unique to Japanese culture is the 'street hero', referred to as 'Uncle Bow'. These images are designed by companies and present throughout the country wherever the public could face even a minor inconvenience.



3 LESSONS TAUGHT BY JAPANIMATION

- 1. Skill can overcome huge odds**
- 2. If victorious, one should not show off, and instead respect the opposition**
- 3. How one wins is as important as winning**

Kawaguchi showed examples of these 'uncles' – often cute, cartoonish men, bowing humbly as if in apology. The images are posted by, for example, construction companies around building sites, as a way to apologise to nearby residents and passers-by for the noise, smell and general inconvenience. The Western equivalent would be a simple 'Men At Work' sign.

In the futurist's own words: "They teach us to be nice, don't make trouble to the other people, and don't be arrogant or selfish. Have the courage to apologise."

These simple, almost childlike mascots can be seen elsewhere too, not just apologising, but also welcoming and warning the public in a visual message. Organisations throughout the country design their own mascots to welcome people, including:

- **The Ministries of Justice, Defence and Internal Affairs**
- **Customs**
- **Police**
- **Coast Guard**
- **Fire Department**
- **Meteorological Agency**

Mascots on the doors of trains greet commuters, but the Hello Kitty-style cartoon has a bandage on its finger, warning travellers to stay clear of the doors. It is a more human message than a bold text sign saying 'WARNING', Kawaguchi pointed out.

Further Connections To The Past

Even major companies have their own links to Japan's orthodox history. KFC, for example, holds a ceremony each year thanking the spirits of the chickens which create their products and profits. Bioscientists at the cutting edge of medicine have a tombstone dedicated to the spirit of the bacteria they destroy to thank them for their assistance, and train companies hold final run ceremonies for retiring engines, fitting them with signs thanking them for their years of service. Scissors and needles are even given special ceremonies at the end of their useful lives, pushing them through something soft, like tofu, so they can experience the good life before their spirit is sent to heaven.

In the past, we would take care of things, treat them with care and use them until they were useless. Nowadays, said Kawaguchi, the things we use are

functional and disposable. This change has been seen around the world, and by holding on to its past, Japan has found a way to strengthen the connection between humans and products.

In Kawaguchi's words: "It's not just a tool we use, from the needle to the train, it can be a humanised partner. Humanisation provides sustainability."

KEY POINTS

- **Japan's modern culture is infused with its past**
- **Humanising products, signs and vehicles teaches respect**
- **Respecting objects and products encourages sustainability**


Prof Mihaly Csikszentmihalyi

Distinguished Professor of Psychology & Management at Claremont Graduate University

Flow: How Can We Optimise Our **Life Experience?**

//

You grow by experiencing flow

//

Have you ever been so captivated by what you are doing that everything else seems to fade away?

That feeling is what Prof Mihaly Csikszentmihalyi, Distinguished Professor of Psychology & Management at Claremont Graduate University in California, United States, calls 'flow'. Flow is the experience people report when they feel complete and no longer look to the next moment for happiness. Instead, they pour their time and effort into the present.

Researchers have found that the people who experience flow are often living some of the happiest moments of their lives.

Often felt by renowned sportspeople or artists at the top of their game, who are so dedicated to their craft they live in the moment and want for nothing more, it is an enviable psychological concept.

How Does Flow Feel?

Prof Csikszentmihalyi, who authored the best-selling book *Flow: The Psychology of Optimal Experience*, set out to explain the feeling people experience when they enjoy and become immersed in their life's work. He described how he discussed the notion with the late Mark Strand in 1990, Poet Laureate Consultant in Poetry to the Library of Congress who will be remembered as one of the great American poets, to find out what exactly flow meant to him.

"I did interviews with people who had done something that took them out of the ordinary and gave them the feeling that whatever they were doing had pushed them forward and they had contributed to the world by doing it. Strand did this by writing poems."

When Prof Csikszentmihalyi asked him how he felt, Strand replied that it was like losing sense of time: "You are enraptured and you are completely caught up in what you are doing. There is no future or past, just an extended presence in what you are doing."

The psychologist, who is also the Founder and Co-director of the Quality of Life Research Center at Claremont Graduate University, confirmed his other interviews yielded similar results: "If you take a great skier, a great athlete or chess player, anybody who is doing something beyond the ordinary, this is what they say. They are so involved in what they do, they are doing it right in the moment."

Such dedication on this level is not driven by a thirst for money or fame, he explained: "They don't do it primarily for money or status or power, but because they like what they are doing and this turns out to be an essential part of life – you grow by experiencing flow."

Prof Csikszentmihalyi presents flow as something almost mythical, but makes it clear that a few short steps can be taken to put anyone on the path to achieving this sense of enlightenment in their day-to-day lives. While the professor may witness the phenomenon most often in people who have done great things with their life, it can also be appropriated to someone who enjoys their job and leads a happy and rounded lifestyle.



Prof Csikszentmihalyi explained there was a simple and empowering formula to reach flow, which involves people using their skills to derive joy from the things that they do.

"Much of what we do is determined by our genes, our environment and the forces around us. I can decide these are the cards I have been dealt and this is what I will do with my life, or I can ask how can I take control over what's happening to me?" To achieve flow, people should always set clear goals, constantly seek feedback on their performance and find the right balance between the challenge they confront and the skills at their disposal, he said.

How Governments Can Foster Flow

Prof Csikszentmihalyi imparted some simple instructions to government leaders attending the Summit, who wished to help their citizens find joy in the things they do.

The first priority, he said, is to make sure people do not become disillusioned with life and work, and to create new challenges on their behalf.

"So many of our institutions, schools and workplaces keep people's skills out of balance," he said, adding that left people feeling bored and apathetic because they don't have enough challenges. For those who do have challenges presented to them, he said, they were often out of proportion with their ability to perform.

Insurmountable challenges have the same effect, resulting in a nation or society that feels bored or apathetic.

"This would be a system where nobody is growing and nobody is enjoying life, and that's not a very good system," he said. "It's important for a community of people to feel they are free and they can live their lives how they want," he added.

3 STEPS TO EXPERIENCING FLOW

- 1. Set clear goals and always know what you want to do next**
- 2. Get feedback all the time on what you are doing**
- 3. Find the balance between what needs to be done and what you can do**



HE Dr Aisha Bin Bishr (Centre)

Director General of Smart Dubai

HE Luis Alberto Mella Gajardo (Second Left)

Mayor of Quillota, Chile

Antanas Mockus (Second Right)

Former Mayor of Bogotá, Colombia

Mary Hanafin (First Right)

County Councillor of Dún Laoghaire-Rathdown, Dublin, Ireland

John Defterios (First Left)

Emerging Markets Editor for CNNMoney, Moderator

What Is The Role Of Cities In **Creating Happiness?**

How can local governments rise to the challenge and deliver happiness more effectively than federal governments? That was the question posed by John Defterios, the CNNMoney Emerging Markets Editor, to a panel of politicians from the United Arab Emirates (UAE), Chile, Colombia and Ireland.

The Abu Dhabi-based moderator sat down with Her Excellency Dr Aisha Bin Bishr, Director General at Smart Dubai, His Excellency Luis Alberto Mella Gajardo, Mayor of Quillota in Chile, Antanas Mockus, former Mayor of Bogotá in Colombia, and Mary Hanafin, a member of Ireland's Dún Laoghaire Rathdown County Council, to discuss the global need for a change at the local level to impact happiness.

Stick To The Fundamentals

Speaking on how local governments can deliver happiness, Hanafin highlighted the importance of focusing on housing and safety before delivering on other areas of development.

"If you're going to give people happiness as citizens, they need to have a sense of belonging – for that you must have a home and live in a safe community," she said.

The county councillor from Dublin, who was once labelled the 'Minister for Happiness', said that it was important for local governments to focus on the fundamentals before addressing issues such as creative arts and quality of life. They also had to be mindful of serving the community at all levels, and not to overlook groups such as the elderly and people with special needs.

"You always have to be conscious that you are delivering for the citizens," she added.

A Sense Of Community

Hanafin reminded the room that lessons had been learned from the financial crisis, which highlighted the importance of social inclusion and community for the happiness of citizens.

She also proudly referred to her country's overwhelming show of support for people with special needs when Ireland hosted the 2003 Special Olympics World Summer Games. "It's that sense of volunteerism, community and supporting each other that leads to both short-term and long-term happiness," she explained.

Serve The Needs Of Everyone

Turning the attention to the UAE, Dr Bin Bishr stressed the importance of understanding the needs of different communities in a multicultural society such as Dubai.

"In Dubai, we have 200 different nationalities and they are part of the fabric of our country. We need to serve everyone, and we need to understand the needs of every community and serve them in their own context," she explained.

"We want all those millions who call the UAE their home to continue to call it their home. Therefore, it is important for us to sustain their happiness and their well-being."



Dr Bin Bishr then highlighted the findings of a 2016 survey, which showed how the needs of different nationalities in the UAE vary:

- **Emiratis were primarily interested in issues regarding housing**
- **Asian expats were looking for ways to increase their income**
- **Western expats were concerned with access to more entertainment spaces**

When questioned by Defterios over the UAE's motivation for announcing a happiness agenda, Dr Bin Bishr reminded the audience that it has been a priority for the UAE since its foundation.

"Happiness has been the main commitment by Sheikh Zayed bin Sultan Al Nahyan since day one. The role of the government has always been to serve happiness," she added.

Does Behaviour Improve Happiness?

Defterios introduced Mockus as the former radical mayor of Bogotá, who advocates changing the mindset of citizens' behaviour to improve happiness, even at a national level. Mockus' progressive policies to

encourage safety, an important parameter of happiness, have proven hugely successful. After just one year, 70% of the population use seatbelts compared to zero previously, and homicide and rape rates decreased by as much as 30%.

Mockus also stressed the need to balance economic goals with happiness. He said: "Money is always a coordinator of human behaviour, but it's a non-permanent one. Economic improvement does not always guarantee happiness."

Working In Harmony

Chile's Gajardo offered a different viewpoint, suggesting that collaboration is the key to happiness. The Mayor of Quillota then explained how his city is working together to ensure the happiness of its individual citizens.

Through a translator, the Spanish-speaking mayor said: "Quillota is going through a cultural transformation and we want to move from competing to collaborating. We are trying to tell people it is possible to have a different perspective on development."

5 WAYS CITIES CAN PROMOTE HAPPINESS

1. **Focus on first meeting basic development needs, such as housing and safety**
2. **Ensure all levels of society are being served, and do not overlook groups such as the elderly or those with special needs**
3. **Understand that the various demographics within the same community will have different needs**
4. **Balance the pursuit of economic goals with fostering happiness in residents**
5. **Encourage the various groups within the community to collaborate instead of compete**

**Dr Paul Litchfield**

Chairman of What Works Centre for Wellbeing

What Works For **Well-Being?** Lessons From The UK

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A What Works Centre is about what works, why it works, how it works and trying to communicate that effectively

//

Evidence-based practice is playing an increasingly important role in the study and development of well-being in the United Kingdom (UK). The What Works Centre for Wellbeing (WWCW) is bridging the gap between knowledge and action, said Chairman Dr Paul Litchfield, by reviewing the evidence and translating it into something meaningful that can be used to draft policy guidance.

Dr Litchfield, who champions the idea that good decision-making should be informed by the best evidence available, explained how the WWCW is one of nine independent What Works Centres in the UK. Each one focuses on a different issue such as well-being, health, education or crime.

Bridging The Gap

The WWCW is an independent, collaborative organisation based in London that was set up in 2015 to understand what governments, communities, businesses and individuals can do to increase well-being.

Chief Medical Officer at the BT Group, Dr Litchfield champions the idea that good decision-making should be informed by the best available evidence.

He is putting this into practice at the helm of the WWCW, which draws evidence together, develops meaningful methods of comparison, and produces practical guidance that can be used to drive change for the better.

"At the moment, the What Works Centre is very much a British institution that bridges the gap between knowledge and action," explained Dr Litchfield. "It looks at the evidence that exists, takes a systematic approach to it, synthesises and translates it into a format that works for policy-makers, and then disseminates it."

A Nationwide Effort

The UK has a total of nine What Works Centres across the country, each one focusing on a different issue such as well-being, health, education or crime.

"Each one is delivered with a range of different partners, and we work together as a virtual centre to deliver a range of products," said Dr Litchfield.

"Our goal is to pull together the evidence and translate it into something meaningful that can be used to draft policy guidance and identify where gaps exist."

**4 THEMES OF THE WWCW PROGRAMME**

1. Well-being across the life force
2. Community well-being
3. Working and learning
4. Culture and sport

There are huge advantages to the centres being a collaboration between government, non-governmental organisations (NGOs), funding bodies and the private sector. As Dr Litchfield highlighted, they have great power in terms of reach. Conversely, the many partners can bring with them certain challenges in terms of organisation.

Dr Litchfield stressed the importance of the centres working together closely as a network, both to avoid duplication and to share learning.

Each of the centres follows the same evidence-based programme, which focuses on four themes.

Singing Your Way To Happiness

The WWCW is currently reviewing evidence from around the world into how music and singing can improve well-being, said Dr Litchfield. Evidence has highlighted the following:

- **Singing in community choirs and other music groups improves well-being for older people**
- **Listening to music may be an effective way to prevent the development of mental health problems in later life**
- **Music can alleviate anger in young offenders' institutions**
- **Listening to music can help to allay anxiety in young people**

All findings are supported by practical examples, added Dr Litchfield, and evidence is rated to show where there are gaps in information.

Turning Evidence Into Action

Dr Litchfield described the centres as a movement that "aims to persuade people that evidence-based practice has to be done as standard".

"It distresses me how often policies are implemented based on little or no evidence," he added.

3 RECOMMENDATIONS FOR GOVERNMENTS**1. Sharing experiences and recognising the value of all evidence**

While randomised controlled trials are the most rigorous way of testing something, small-scale interventions can be used to pinpoint where such trials need to be carried out.

2. Government cannot and should not do everything

In areas such as well-being, it is the local communities, small businesses and NGOs that can make the greatest impact, and they need to be given the evidence to assist them.

3. Effective communication

Avoid using academic language when pitching evidence to key decision-makers, and make it relevant and meaningful to them.

**Prof Alan Krueger**

Bendheim Professor of Economics & Public Affairs at Princeton University

Zeina Yazigi

Anchor for Sky News Arabia, Moderator

Is It The **End Of Globalisation?**

// While a slowdown in global integration is natural, the concern now is that it could change abruptly

//

Several major trends are converging to threaten the path to further global integration, according to leading economist Professor Alan Krueger – and this 'perfect storm' could have significant consequences for economies and cultures across the world.

Previously the Chairman of former President of the United States Barack Obama's Council of Economic Advisers, Prof Krueger is a recognised expert in his field on the key factors influencing the integration of cultures and economies. He has written two collections of essays, one called *What Makes A Terrorist: Economics and the Roots of Terrorism* and another called *Education Matters*.

Identifying three main issues that have all accelerated in recent years – growing income disparity, the impact of world trade on politics, and the associated resurgence of protectionism – he showed how these key factors are beginning to slow globalisation more than any time since the 1930s.

In his view, these factors have been building for a while – even before the 2008 financial crisis. Now they are sowing the seeds for a major reassessment of globalisation.

Even without them, globalisation would still have a long way to go to reach optimal levels, but their growing influence could change the picture dramatically, he said.

For this shift to be countered, he concluded that forces – whether institutional or political – which value the benefits of integration between nations urgently need to come up with a more compelling message. If they cannot, then the change in direction could be abrupt, with a resulting impact on everything from economic growth to quality of life across the globe. If these voices are not raised, Prof Krueger claimed the following abrupt change in globalisation would almost certainly come to bear.

Growing Income Disparity

Focusing mainly on the United States (US) and Western Europe, Prof Krueger, Bendheim Professor of Economics & Public Affairs at Princeton University, charted the rise in income disparity in recent decades – and its impact.

From World War II to the late 1970s, productivity and wages in these economies grew more or less in tandem. This shared trajectory supported the

theory that the best way to improve living standards was to raise productivity in an economy.

Since 1979, however, the two have disconnected. This divergence has been most pronounced for the bottom 80% of society. Their income levels have been stagnant or, at best, growing minimally. Only the top 20% have seen significant income growth in recent decades – on average 1.2% a year.

His concern is that this growing gap in incomes will create an inequality trap, where those in the bottom half of society are permanently unable to access the opportunities that could improve their quality of life in ways comparable to previous generations. As an example, he showed how virtually all the growth in US college education has benefitted the top half of society.

This problem of limited opportunity is severe, he concluded, and is contributing to concerns about globalisation.

Prof Krueger did acknowledge that this trend is more apparent in the developed world and that globally there has been significant growth of the middle class.

The Impact Of World Trade On Politics

One of the strongest factors in global integration recently has been the remarkable emergence of China as a world trader. In 1995, its share of world trade was 2%. Now it is 10%.

This rise has, of course, impacted other areas of the world, such as the American Midwest. This has in turn then undoubtedly contributed to those regions' shift towards more conservative political mindsets. Prof Krueger cited a study by David Autor, Ford Professor of Economics at Massachusetts Institute of Technology (MIT), which suggested that had China's trade growth been half of what it actually was, then Hillary Clinton would have won the last US election by a significant margin for this very reason.

The Resurgence Of Protectionism

This second trend is then reflected in the rise of trade barriers between countries. Prof Krueger pointed out that, for 30 years, world trade grew twice as fast as world GDP. In the past five years, however, this has changed.

Of the causes behind this, the re-emergence of protectionism is key. The Organisation for Economic Co-operation & Development (OECD) has predicted that if countries were to liberalise their barriers, then global integration would rise. Prof Krueger predicts we are in fact heading in the opposite direction: towards even more barriers.

KEY POINTS

- **In developed countries, globalisation has increased the gap between the richest and the poorest**
- **Those in the bottom half of society are unable to access opportunities that have helped the top half of society gain a further advantage**
- **China's exceptional growth in the world market has had significant impact on certain areas of the world, and the way their inhabitants perceive globalisation**
- **Trade barriers have re-emerged, stemming growth**





Dan Glickman (Second Right)
Former United States Secretary of Agriculture,
Executive Director of the Aspen Institute Congressional Program

David Rosenberg (Second Left)
Co-founder & CEO of AeroFarms

Marc Zornes (First Left)
CEO of Winnow Solutions

Greg Shewmaker (First Right)
Founder of Food + Future coLAB, Moderator

Designing A Better Future For Food

Food is central to human life and the future of agriculture is changing more quickly than ever before. Governments are paying more attention to how much they spend and companies are investing more money in the new technology that is rapidly becoming available to them.

"For the first time you are seeing private equity firms investing a lot of money in agriculture," explained Dan Glickman, a former United States Secretary of Agriculture. "Agriculture was absent from new tech investments up until about 15 to 20 years ago. Now it is beginning to proliferate and that's a very good sign that people are thinking there's money to be made and consumers are willing to accept new technologies."

Food and the way it is farmed never used to be part of a global discussion, but those days are over. Since World War II, agriculture has not even been on the agenda, but fast forward 72 years and global warming, food waste and obesity are all key government topics.

A panel of food experts was asked questions by Greg Shewmaker, the founder of Food + Future, a company which combines food, art and technology to develop a better

understanding of food's role in society. He gave panellists the chance to explain their ambitious projects and answer one key question: is it time to stop paying more money to eat better?

The Future Of Farming

David Rosenberg, Co-founder and CEO of AeroFarms, grows vegetables on his company's state-of-the-art premises. Standing at 12 levels high and 80ft long, there are 40 towers of trays stacked upon trays, each growing leafy greens without any pesticides, sunlight or soil. Engineers can manipulate the taste and textures of their greens and herbs by stressing a plant environmentally – increasing or decreasing factors like temperature and light. They modify kale to make it softer and can make arugula, or rocket, even more peppery.

AeroFarms has also introduced novel methods to reduce the risk of contamination and, if food does become contaminated, engineers can pinpoint the specific area where it started.

Rosenberg explained: "We are raising the bar to levels that have never been seen." The plants are grown in cloth, rather than soil, and the cloth contains tags which send data back to the engineers who can identify an area of contamination should one arise.

"If there is a food contamination, instead of saying 'it is within this 10 acres' we can say 'look at this 5ft by 3ft cloth; we know who touched it, where and when'," explained Rosenberg.

Most of the contamination in farming occurs during the wash cycle after the plants are harvested, but AeroFarms does not employ traditional methods to grow its leafy greens. By cutting out pesticides and fungicides, it eliminates the need for the greens to be washed, thus reducing the risk of contamination even further.

Rosenberg has also pioneered a healthy eating project for youngsters, which was visited by former First Lady of the United States, Michelle Obama. The small project distributed green vegetables in an inner-city school in Newark, New Jersey, resulting in improved behaviour as children reduced the amount of fast food they were eating.



How Food Waste Hurts Businesses

Food waste hits businesses hard, which is the rationale behind Mark Zornes' Winnow Solutions. The technology monitors food waste in kitchens, examining what chefs were throwing away and found they could cut wastage by between 40% and 70%, saving hotels anything from 3% to 8% of their food costs. Winnow is now working with retailer Sainsbury's in the United Kingdom to reduce supermarket waste.

Zornes said the organisation is looking to the future to help businesses work together in a constructive way to have a bigger impact on cutting waste. "It is the equivalent of telling people to turn off the lights. Quite frankly, that does not drive mass change in the world," he said.

"What does drive change is data and helping people understand how they compare with their peers, where the opportunities are and how to drive them forward." He said very limited data exists on waste from homes, restaurants and the supply chain, but that collecting that data is the first step to enabling change.

The Risks Of Change

Technological progress is not easy and could come at a price for some, the speakers concluded.

"The economics are tough," said Rosenberg, who gave the example of his company automating the processes of seeding, operating and packaging to reduce operating costs.

"The details matter. The complexities and the space required are tremendous." He admitted that while the technology was there today, whether it was viable remained to be seen. "There could many winners, but everyone else is going to be a loser. There is going to be a lot of pain until the industry matures."

KEY POINTS

- **Agriculture isn't straightforward, with companies and farmers running the risk of going out of business as new technology continues to develop**
- **It is a competitive environment, but leading experts are confident positive changes can be made**
- **Governments are showing more interest and people are looking to invest in technology to help promote better lifestyles**
- **Technological progress isn't easy and could come at a price for some**

**Dr Thomas Homer-Dixon**

Centre for International Governance Innovation Chair of Global Systems at the Balsillie School of International Affairs

Naoufer Ramoul

Anchor & Producer for Dubai TV, Moderator

Climate Change & Global Food Supply: What You Should Know

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The world is going to be radically different, and as human beings we face enormous challenges

//

By the middle of this century, global warming will dramatically alter the global food supply – and we are already far behind the curve in what we need to do to adapt.

This warning came from Dr Thomas Homer-Dixon, a recognised expert on the impacts of environmental stress and conflict, who illustrated the alarming and accelerating pace of climate change and global warming by presenting a wealth of independent data.

Global Warming: The Key Trends

Dr Homer-Dixon, the Centre for International Governance Innovation Chair of Global Systems at the Balsillie School of International Affairs in Ontario, Canada, explained how global warming is caused by an imbalance in radiation in the Earth's atmosphere. This imbalance has been increasing steadily since the first Industrial Revolution in the mid-18th century.

To bring its impact to life for his audience Dr Homer-Dixon, who is also Founding Director of the Waterloo Institute for Complexity and Innovation in Canada, compared the energy it creates to the equivalent of 400,000

Hiroshima-scale bombs being detonated every day, day after day.

While the situation might not feel severe right now, radical change is on the way. Citing independent climate change data, Dr Homer-Dixon predicted that the children of today will witness that change in the future.

Dr Homer-Dixon counselled that the world must lower greenhouse emissions and invest heavily in technological innovation in order to adapt and survive.

His address drew attention to climate change's impending impact on food supply and production, whether that is growing droughts shrinking key agricultural regions, or increased flooding reducing crop yields. Every sector of food – agriculture, fisheries and livestock – faces huge challenges. Droughts, temperatures, floods and more will occur far beyond the parameters that current food production systems can cope with.

Such humanitarian crises, furthermore, exacerbate other global problems and the academic has also led numerous research projects which investigate the link between environmental stress and violence in poor countries.



The implications for future generations – including those who are alive now as children – are significant and require major action, he said. But in Dr Homer-Dixon's assessment, that action is already falling behind.

What Lies Ahead?

By the middle of the century, the world will – by all estimates – be at least 2°C warmer than it is now, possibly by as much as 3 or 4°C. He concluded that the implications of this are enormous, affecting every aspect of global food supply. He focused his examples on crops, as they constitute most of the calories consumed on the planet. Crops are also heavily dependent on the natural water cycle: where rain falls to the ground, feeds into rivers and the sea, then evaporates into the atmosphere before falling once again as rain.

The energy element in this cycle is now altering dramatically, due to climate change. This is increasing the levels and speed of the water cycle.

The results include:

- **Larger storms and extensive flooding, which both damage the agricultural system and cause crop failures**
- **More drought, because of higher transpiration rates – particularly in key agricultural areas, such as North America, Australia, Europe, East Asia and sub-Saharan Africa**
- **Heat shock, where sudden spikes and extremes in temperature decimate crops such as maize and rice**

What Can We Do?

Dr Homer-Dixon was clear about the required response. The bottom line, in his view, is that massive agricultural adaptation through technological innovation is essential. This innovation will have to come from international companies investing in hybridised and genetically modified crops that can better withstand climatic impacts. But to date, this investment is already far behind the curve.

"We are not investing anything near what we should be in developing the crops we will need," he claimed.

KEY POINTS

- **The last three years have been the world's warmest three years ever**
- **Temperatures at the globe's northern extreme are rising twice as fast as anywhere else**
- **Not only is food production a 'victim' of global warming, it's also a cause; between 18% and 29% of greenhouse gas emissions emanate from food production**
- **The world's overall average temperature has risen by 1.1°C since the middle of the 19th century**
- **While this might not sound much, it is – and it's also just the start**

Dubai 10X

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates, Ruler of Dubai, launched the Dubai 10X initiative at the World Government Summit, directing all government entities to embrace disruptive innovation as a 'fundamental mantra' of their operations. This means radically changing the way they do things by exploiting all available technology and basing change on design-based and customer-focused thinking.



**Prof Andrew Oswald**

Professor of Economics & Behavioural Science at the University of Warwick

Is Happiness **The New GDP?**

// Human well-being is as fundamental as food, clean water and health

//

Social and behavioural scientists are largely united in the concept that a country's GDP is no longer an effective method of measuring the success of a society. Happiness and well-being, however, are all too often dismissed by governments and experts as a replacement, Professor Andrew Oswald, Professor of Economics & Behavioural Science at the University of Warwick, told world leaders at the Summit. Even the general public, he said, seem to think of happiness as a luxury when, all its influence considered, the concept is actually equal in importance to health, food and water.

"People believe that once we have economic development, get rich and have material things then that's when we should worry about human happiness," he said. Adding that in fact, happiness is a fundamental necessity and should come at the very beginning.

"Not only should governments take well-being seriously, but it should be right up there with all the other things they worry about," he urged.

The co-author of a recent scientific paper called *Understanding Happiness*, Prof Oswald pointed out that the wide-ranging social impact of having a happy population cannot be ignored, not only for its benefits to the individual but to society at large.

Happy Citizens

Prof Oswald explained that people who feel respected by others and are able to trust others tend to be happier. People who feel their government performs well, acts on time and doesn't waste money also feel happier. In turn, people who are happy tend to be good citizens, meaning they are more likely to help others, volunteer, give money to charity and, in some countries, are more likely to donate blood. Studies have shown that if people are in a positive mood they are more likely to help in an emergency situation.

In the work environment, the effects of happiness also amount to a considerable impact on a company's fortune. Businesses that have happy

workers have a higher performance rate of about 6%. They also have lower staff turnover and fewer sickness absences. Employees who like their job are more likely to help others at work and go beyond the basic scope of their role.

Achieving happiness and improving well-being in the workplace is subject to a good deal of research. Studies have found that the income and benefits derived from employment are important in building a happy society, but they do not automatically equate to happiness. In order to be satisfied in a job, an employee needs to be good at their work and enjoy what they do. Offering flexible work hours, especially to primary care-givers who may need to fit work around childcare, is one way employers can improve their employees' well-being, he mentioned.

Unemployment, on the other hand, can be a major reason for unhappiness, and even if people do get a new job, the previous experience of being unemployed can scar them and leave them feeling depressed. This is why Prof Oswald said it is crucial for governments to have income security and job retraining programmes.

Happy People Are More Likely To Remain Happy

On an individual level, having basic needs met such as access to family, food and water leads to higher life satisfaction. Access to clean air and green spaces are also big contributors to happiness. Prof Oswald said that even a simple thing such as keeping indoor plants to improve the environment of a building can affect well-being in a positive way.

Psychological well-being is also an important measure of happiness, he said, including factors such as having a purpose in life, having close friends and not being lonely.

One of the main causes of misery in economically developed countries, on the other hand, is mental illness, a fact that Prof Oswald said is often overlooked. Despite being such a high indicator of unhappiness, mental health is one of the illnesses that receives the least funding for treatment or research.

"Mental illness produces more misery than any other major illness such as cancer or a heart attack," he pointed out. This is due in part to the fact that mental illness doesn't just affect the individual but also the people around them.

In order to achieve happiness, a person must not have too many negative emotions dominating their lives, explained Prof Oswald. While he acknowledged it was normal and fine at times to feel negative emotions, he warned that a person cannot achieve happiness if they become chronic.

Likewise, once people are happy, the differences in the way they live tend to steer them in a direction that further enhances their happiness.

Taking the example of health, Prof Oswald claimed that not only is good health one of the requirements for happiness, but being a happy person – rather like being a non-smoker – also increases the likelihood that a person will be healthier and live longer. Happiness increases cardiovascular health and strengthens the immune system, with happy people being less likely to suffer from strokes or from more than one heart attack.

Happy people, on average, tend to have more healthy behaviours. They are more likely to exercise and less likely to drink alcohol to excess and smoke. Prof Oswald pointed out that very few depressed people exercise, and when they were surveyed about what they

PROF OSWALD'S MAIN CAUSES OF HAPPINESS

- Job satisfaction
- Reliable government
- Positive social relationships
- Environment
- Good mental health



liked to do, most respondents replied that they would watch television, eat and nap. Happy people, on the other hand, said they were more likely to read, socialise and be active when asked the same question.

Resilience is another factor, with people who are happier tending to bounce back quicker from tragedy than those who are unhappy or depressed. In social relationships, happy people often have more successful marriages. This is not just because marriage makes a person happy, but also because happier people are more likely to get married, stay married and rate their marriage as rewarding.

HAPPY PEOPLE ARE MORE LIKELY TO:

- Live longer and healthier lives
- Engage in healthy behaviours such as exercising
- Avoid drinking alcohol to excess and smoking
- Read, socialise and be active in their spare time
- Bounce back quickly after tragedy
- Get and stay married

**Dr Andrew Weil**

Founder & Program Director of the Arizona Center for Integrative Medicine

Ancient Healing For Modern Disease

// Healthcare is the responsibility of governments. It is in the interest of government to keep its citizens well and healthy and to improve well-being

//

Dr Andrew Weil, a key figure in integrative medicine, explained that modern medicine is fuelled by a for-profit system that is reliant on drugs. Doctors should instead focus on well-being, self-healing and making healthy lifestyle choices.

Keen to differentiate between a healthcare system and disease management system, Dr Weil said that many developed nations have systems that "function very imperfectly, and get worse by the day".

Integrated medical treatments are not anti-drug or anti-surgery, he clarified, and do not exclude conventional medicine. The emphasis is, however, on treating certain types of disease like chronic pain with drugs, but addressing epidemics such as obesity with health promotion and disease prevention.

As Founder and Program Director of the Arizona Center for Integrative Medicine, Dr Weil is an advocate of the human body's ability to heal itself, but claimed this idea had been lost in the enthusiasm for technical solutions to solve all of mankind's problems.

The Obesity Epidemic

Citing the United States (US) as an example, the internationally recognised expert on healthy lifestyles discussed how children as young as two years old are being diagnosed as obese and are at risk of developing diabetes later in life. Childhood obesity is now an epidemic, and modern drugs alone are not able to fix the crisis.

The types of food people eat, lack of physical exercise and the inability to manage anxiety and stress levels can lead to diseases such as diabetes and obesity in both adults and children. Dr Weil pointed out that the medical industry tries to manage these diseases, which are rooted in lifestyle choices, by prescribing high-tech medicines that were designed for and work very well for trauma, medical crisis and acute medical conditions.

Funding & Profits

As ineffective as the US's current healthcare system is, it makes a lot of money for a select few people, Dr Weil declared. Chairman of the Weil Foundation, which invests in progressing integrative medicine, he claimed that the people who make a profit from insurance-based medical treatment have their own agenda and do not want to see a change in the current system. With a focus on prioritising reimbursable treatments, there is little incentive to spend long periods of time simply talking to patients.

If doctors spent just an hour a day talking to a patient about their lifestyle choices, Dr Weil said he believes this would be more cost effective in the long run, as the physician may be able to give preventative advice. Sadly, many insurance companies do not fund this type of extended verbal consultation, he said. Doctors focus their attention on prescribing drugs or surgery, and as a result, time spent between the doctor and patient has diminished.

Breathing Techniques

Aside from maintaining a healthy lifestyle, Dr Weil places a great importance on the role of performing breathing techniques in well-being. Such techniques may have originated in ancient India, and the idea behind it is that breathing is a function that people can perform completely consciously or unconsciously.

"By imposing certain rhythms on your breathing with your voluntary system, gradually you can induce those rhythms on your involuntary nervous system," he said. He also stated that many common health conditions, such as high blood pressure and circulatory complaints, are rooted in 'unbalancing functions of the involuntary nervous system'.

A Future Vision For Integrative Medicine

Dr Weil concluded that it was time for a 'fundamental change' in the nature of medicine. Based on the recent actions of the current US administration, he expressed fear that conventional healthcare institutions may not exist in 10 years' time. He suggested, however, that this may be a positive change for integrated medicine as it could pave the way for alternative medical centres.



One type of institution that Dr Weil envisioned was a healing centre that would resemble a blend between a spa and a hospital. Its function would not be to treat severe, critical or terminal patients. Instead, this facility would focus on the management of common complaints such as back pain, headaches, allergies and autoimmune diseases. People attending these healing centres would learn techniques to prevent illness, and by teaching patients to control their stress levels, manage their diet, and lead healthier lifestyles in general, the centres could prevent or limit many common chronic ailments.

FUNDAMENTAL PRINCIPLES OF INTEGRATIVE MEDICINE

- Based on the theories of Socrates, integrative medicine places great emphasis on the human organism's potential for self-regulation. The body has the ability to heal itself and regenerate tissue. Dr Weil stated: "That idea has been lost in our enthusiasm for technical solutions to all our problems"

- Medicine works indirectly, not directly, impinging on the intended healing mechanisms that people are born with
- Humans are not just physical beings, they are spiritual and emotional. Within the medical profession, there is an assumption that all physical diseases have physical causes. This is a restricted vision and ignores the true source of the disease
- The emphasis is on lifestyle medicine – how people eat, sleep and manage their stress levels
- It incorporates different traditional medicines from around the world, such as Chinese medicine or Islamic medicine
- Integrated medical treatments are not anti-drug or anti-surgery and they do not exclude conventional medicine

**Prof Brian Greene**

Co-founder & Chairman of the World Science Festival

How **Advanced Science** Is Shaping The Future Of Governments

// Investment in basic science creates a pervasive culture of discovery, of innovation, of exploration

Investing in science for the sake of simply understanding our universe better is what really drives innovation, world-renowned theoretical physicist and best-selling author Professor Brian Greene said, captivating the audience of international policy-makers and leaders.

Humans are born with an innate desire to explore and understand the world, a quality that the best scientists harness to fuel their discoveries. Even if they do not originally intend for their experiments to lead to a practical application, any advancement of knowledge has the opportunity to encourage international collaboration and drive serious economic growth.

Lessons From Youth

The desire to explore and understand the universe is what sets humans apart from other species, Prof Greene

asserted. As children, that drive is uninhibited. To illustrate the point, Prof Greene spoke of a time when he was speaking to a class of second graders. He asked the class, "How do you put three into six?" When he called on one girl to answer, she charged up to the blackboard without hesitating and wrote a big number six. Inside the empty circle of the six, she wrote a number three.

Prof Greene admitted this wasn't the answer he was looking for, but the girl reinforced his notion that all humans begin 'as uninhibited, unabashed explorers of the unknown'. She was presented with a problem and so she charged forward into the unknown to try to find a solution.

In Pursuit Of Basic Science

While most people lose this spirit of childlike wonder as they age, Prof Greene pointed out that the world's great scientists and engineers maintain this pure drive. In fact, it is the foundation of all groundbreaking scientific discoveries.

He argued that basic science, or the pursuit of science purely for the sake of understanding the world better, is what ultimately leads to spectacular

technological innovations, and those developments drive economic growth.

"Investment in basic science creates a pervasive culture of discovery, innovation and exploration," Prof Greene said. "And it's that culture that distinguishes between those countries that will follow and those that will lead."

Big Science Breakthroughs

Prof Greene described two major scientific breakthroughs, both of which were originally undertaken as an effort to satisfy human curiosity but ultimately led to international collaboration and life-changing innovations.

The first arose in 2016, when the National Science Foundation announced that after 40 years of work, the Laser Interferometer Gravitational-Wave Observatory had detected cosmic gravitational waves for the first time.

To explain the relevance of this discovery, Prof Greene told the audience to imagine space as if it were a trampoline. What would happen if a child came along and jumped on that trampoline? It would create ripples in its surface. Likewise, objects such as stars and black holes rapidly moving through space create ripples in the fabric of the

cosmos. These ripples are called gravitational waves.

For no reason other than to understand the universe better, more than 1,000 scientists from 15 countries set their sights on measuring this ripple in the fabric of space. It took more than four decades and \$1 billion to build a detector sophisticated enough to pick up the sensitive vibrations that were created 1.3 billion years ago when two black holes collided.

Today, countries around the globe are collaborating on this project in order to triangulate the location where that signal originated. The practical implications may not yet be apparent, but there is limitless potential that these findings will one day significantly impact daily life.

Science Writ Small

The second discovery Prof Greene discussed was the double slit experiment, which described the nature of quantum mechanics.

He instructed the audience to imagine a gun firing pellets at a barrier that contained two slits. What pattern would emerge on the other side? As one would expect, the pellets would be arranged in two bands consistent with the barrier's

two slits. When the same experiment was conducted using subatomic particles as ammunition, however, scientists observed a startling result. The particles were not arranged in two bands on the other side of the barrier as expected, but in several bands.

Scientists were able to determine how subatomic particles moved. From that understanding, the integrated circuits which comprise most of the electronic devices used today were developed, creating a trillion-dollar consumer electronic industry.

Pale Blue Dot

Prof Greene showed a photograph of the Earth taken by the Voyager 1 space probe at the instruction of renowned astronomer Carl Sagan, titled *Pale Blue Dot*. In the image, Earth takes up less than a pixel, displaying just how small the planet is within the vast cosmic arena.

To Prof Greene, this image underscores the necessity to use science in a way that shifts perspectives away from local, parochial concern and toward addressing the big, universal questions, such as where did the world come from and where is it going.

In conclusion, Prof Green asserted that not only is it vital for governments to support big science and cultivate a culture of discovery, but perhaps big international collaborations such as the ones highlighted in his session can serve as a model for a new kind of global conversation among governments.

PROF GREENE'S ADVICE FOR GOVERNMENTS

- **The scientific breakthroughs which drive economic growth are fuelled by a desire to understand how the universe works**
- **Governments should invest in basic scientific research, even if there is no obvious practical application**
- **A culture of discovery, innovation and exploration is what determines which countries lead and which ones follow**
- **Massive scientific collaborations can serve as a model for a new kind of global cooperation between governments**



**Steven Kotler**

Co-founder & Director of Research of the Flow Genome Project

John Defterios

Emerging Markets Editor for CNNMoney, Moderator

Agile Governments: Survival In An Ever-Changing World

// There are cognitive technologies that let us upgrade our brains so we can keep pace in an exponential world

//

Visionary author and entrepreneur Steven Kotler transported the audience to a technology-driven world where new techniques help people perform better physically, and cognitive technologies upgrade the human brain to keep pace with an ever-changing world. These tremendous advances would lead to the possibility of 'agile governments' which are capable of adapting in times of extremely rapid change, he conjectured.

Kotler pointed out that science and technology are already advancing by leaps and bounds, be it in artificial intelligence (AI), biotechnology, nanotechnology or 3D printing. The human brain, however, was not designed to move at this speed or think at this scale, he stressed, suggesting that it too needs to be upgraded.

The Flow Genome Project, of which Kotler is Co-founder and Director of

Research, addresses this very issue. It teaches practitioners to tap into ultimate human performance by being in an optimal state of consciousness, or state of 'flow', which enhances performance and productivity by 500%. The flow state, Kotler contended, is an indispensable tool for governments, which can increase their ability to respond and adapt to the unique challenges of today's world.

Moore's Law

Kotler, who has authored books like *Bold* and *Tomorrowland*, drew attention to the fact that the technology available to us now is expanding exponentially, and individuals and governments alike will need to find ways to keep up.

To illustrate this rapid expansion rate, he cited Moore's Law, the observation made by Gordon Moore, a co-founder of Intel, in 1965 that the number of integrated circuits on a computer chip doubled every 18 months. "Moore's Law is the reason that the smartphone in your pocket is a thousand times cheaper, a million times smaller and a million times faster than a supercomputer from the 1970s... The really important point is it's not stopping," Kotler underlined.

Kotler went on to describe just a few of the technologies that are transforming the world.

4 TRANSFORMATIVE TECHNOLOGIES

1. Biotechnology

This area, Kotler asserted, is accelerating at a pace that is five times faster than the speed of Moore's Law, which means it is doubling about every four months instead of every 18. To illustrate, he offered the example of Hugh Herr, a paraplegic professor at Massachusetts Institute of Technology (MIT), who wears the world's first bionic ankle. Invented about five years ago, these ankles are now so robust that soldiers are wearing them into combat, Kotler said, adding that biotechnology has advanced so quickly that now as much as 50% of the human body can be replaced by bionics.

2. AI in healthcare

Kotler described in detail how Watson, a supercomputer built by IBM, was loaded with medical

diagnostic information, case studies and lab results. Watson then uploaded that data into a network of servers, or cloud. Now, efforts are focused on building user-friendly interfaces for that diagnostic supercomputer in the cloud, he said. Kotler predicted that we are not very far from developing a hand-held device that can diagnose illness better than a doctor, much like in the popular TV series *Star Trek*. These advances would transform the quality and cost of healthcare governments can provide.

3. 3D printing

Creating physical objects from digital models can help with building infrastructure and disaster relief. It has the potential to significantly cut costs, making things like housing and improved infrastructure more affordable for both governments and individuals.

4. Blockchain

This leading software platform, which acts as a global ledger for digital assets, gives governments and individuals new ways to provide

transactional services, from banking and online retailing to identity authentication and digital contracts.

The Flow Genome Project

In order for humans to keep pace with all of these advances in technology, people need to 'upgrade the brain'. Kotler explained that this feat can be accomplished through 'hacking' flow.

He defined the concept of flow as the optimal state of consciousness where people feel and perform their best. It refers to moments of rapt attention and total absorption when someone is focusing solely on the task at hand and everything else fades into the background. All aspects of performance – both mental and physical – are at an all-time high during these moments, he added.

"Your sense of self will disappear, time will pass strangely, it'll slow down, you get a freeze-frame effect, or it'll speed up and five hours will pass by like five minutes," Kotler described. Flow improves quality of life – something that should be a top concern for governments, he stressed.

Kotler cited a 10 year study by global consultancy firm McKinsey & Company,

which found that top executives are five times more productive when they are in flow than when they are not. At that rate, if someone spends two days a week in flow, they can be 1,000% more productive than the competition, he asserted, adding that this could work at the government level as well. Kotler revealed that five of the brain's most performance-enhancing neurochemicals are present in flow, impacting all three sides of the 'high-performance triangle' – motivation, learning and creativity.

4 WAYS FLOW PROMOTES HIGH PERFORMANCE

- 1. We take in more information per second**
- 2. We pay more attention to the information we are taking in**
- 3. We find links and patterns between the new information and older ideas**
- 4. We are better able to make far-flung connections between ideas to reach major breakthroughs**



**Dan Buettner**

National Geographic Fellow, Founder of Blue Zones

Discover The **Happiness Zones** Around The World

// Where we see populations with particularly spry 80, 90 or 100 year-olds... the key is that longevity happened to them. It was not something they pursued //

The world's longest-lived people make it to 80, 90 or 100 years old not because they pour their energy into pursuing good health, but because 'longevity happens to them'.

Dan Buettner, an American explorer, researcher and writer, has spent more than a decade tracking down the healthiest, longest-lived communities on the planet and trying to replicate their secrets. His biggest discovery, Buettner told the audience, is that communities which produce a plethora of spry elderly people do so not because people decide at age 50 that they want to live another 50 years. Instead, he said, longevity is the result of an environment which nurtures happiness.

"I started out looking for an herb or a compound or a diet that explained longevity, but actually it's none of those things," he said. "Where we see populations with particularly spry 80, 90 or 100 year olds... the key is that longevity happened to them. It was not something they pursued."

Buettner began researching longevity in earnest in 2003, when he first went looking for the 'blue zones' – those longevity hotspots where people live significantly longer and healthier lives than the rest of the world. He identified five across the globe.

5 BLUE ZONES OF HAPPINESS

1. Sardinia

More precisely a cluster of 14 villages, which are home to 42,000 people, this area has the highest concentrations of male centenarians in the world. The villagers live a mostly pastoral lifestyle and their culture celebrates age. Subtle cultural messages tell older people that they are important and valuable, and people expect something of them even as they continue to age.

2. Okinawa, Japan

This island has the longest-lived female population in the world and 30 times more female centenarians than would be expected in an equivalent population. The island shows how social connections make a difference to longevity, with parents routinely putting young children into 'moai' – social groups which are expected to go through life together. A sense of purpose is also hardwired into the vocabulary.

3. Loma Linda, California

Despite not being far from a busy freeway, with fast food restaurants 'on the corner', its high concentration of Seventh Day Adventists, who adhere to their religion and spiritual practices, eat vegetarian or vegan diets, and avoid alcohol and tobacco, meaning people live about 10 years longer than in the rest of the United States (US).

4. Nicoya, Costa Rica

The peninsula has the lowest middle-aged mortality rate in the world and its spending on healthcare amounts to around only 7% of what the US

spends – proving, Buettner said, a nation does not need to be rich to be happy and healthy.

5. Ikaria, Greece

The island has a population of 10,000 who live about eight years longer than average. At age 85, people in Ikaria have around 20% the rate of dementia of the rest of the world. They eat an extreme form of the Mediterranean diet and people continue to garden well into old age, remaining both active and close to their food.

Areas Of Opportunity: The Blue Zones Projects

Once he had identified these blue zones and established what made them succeed, Buettner turned his attention to finding areas that had been unhealthy but had succeeded in changing.

North Karelia, Finland, had the highest rate of cardiovascular disease in the world in 1972, and men were dying as young as age 55. The authorities and epidemiologist Pekka Puska turned that trend around in 30 years by changing the environment – for example, making it easier to get fruit to eat cheaply all

year round, and persuading the local sausage producer to cut the amount of fat in its products.

Next, Buettner took the lessons to US towns to try and turn them into blue zones, starting with Albert Lea, Minnesota. The projects focused on everything from policy – like restricting fast food restaurants close to schools – to making streets that work for human beings so people would increase their physical activity by walking and cycling. They also worked to build social networks and help people find their sense of purpose to influence the town's happiness levels.

In 18 months, the Albert Lea project added more than three years to average life expectancy in the town and it was soon taken on in many more US cities, including Forth Worth, Texas, and parts of Los Angeles, California.

6 LESSONS FROM THE BLUE ZONE PROJECTS

1. **Starting with a city that is ready to make changes means a project will display early success**
2. **Measurement is always important, so investing in ongoing research is worthwhile**
3. **People like to have something to work towards, like meaningful certification, or a specific set of outcomes that can be tested and proven**
4. **Make the branding about anything other than 'healthy'**
5. **Offer 'policy menus' of evidence-based interventions so people can choose what is right for them**
6. **A realistic time frame for results is between three and five years**



**Caleb Harper**

Principal Investigator & Director of the Open Agriculture Initiative at the Massachusetts Institute of Technology Media Lab

Naoufer Ramoul

Anchor & Producer for Dubai TV, Moderator

The Evolution Of Food

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We're asking for better, more sustainable, more nutritious food
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Young people need to be inspired by innovation to help save the future of the farming industry. Caleb Harper announced to Summit attendees his vision to create a network of a billion new 'farmers', by using computers to grow crops.

As Principal Investigator and Director of the Open Agriculture Initiative (OpenAg) at the Massachusetts Institute of Technology (MIT) Media Lab, Harper hopes that in the near future data will be accessible by all and shared widely between food computers, replacing the concept of shipping fruit and vegetables across the world.

The Current State Of Food

The term 'food crisis' means different things to different people, explained Harper. Some see genetically modified produce as negative or even as a threat, while others believe these products are the way forward. Some think too much

food is produced worldwide, and others believe there is too little. It can be difficult to keep up with all the conflicting information, Harper asserted, but the main focus should be on living sustainably.

To illustrate his point, Harper cited the United Arab Emirates (UAE) as an example. The country currently imports around 85% of its food, which costs approximately 15% of the country's entire GDP. This is already significant, but as climate change drives up the cost of importing food and food supply chains become more insecure, the UAE – and other countries like it around the world – need to consider what can be done to change this ratio to one that is more sustainable.

The 3 'What Ifs'

Harper said there are three 'what ifs' that should be considered when thinking about the future of food.

1. What if there was a 'climate democracy'?

Could climates be created anywhere, allowing crops to be grown everywhere?

2. What if data was shipped instead of food?

The world today is described by data more than ever before; could this be used to grow crops?

3. What if we could network one billion new 'farmers'?

People are increasingly leaving traditional farming, so who will be the next generation?

Exploring The Future Of Farming

To further explore these 'what ifs', Harper and his OpenAg team built production platforms – huge shelving units in which crops of vegetables could be grown. These vegetables were cultivated with minimal space and harvested each month, inspiring experts in other areas of science to examine how they could improve the process.

The next step was to develop these platforms further so that each individual plant had its own custom microclimate, controlled by a computer. The system could mimic the climates of various locations around the globe, and aimed to replicate the taste and characteristics of plants grown naturally in these environments.

The team used a form of irrigation designed for the Mir Space Station which does not use soil or standing water. Instead, plants were watered through a finely controlled mist, allowing smaller amounts of water to be used, which could prove useful in drier conditions. Plants also grew three to five times faster.

Employing these methods, Harper said, crops would not need vast patches of arable land and would not be governed by an area's natural climate. Food could be grown successfully in factories. For the first time in history, farming could be consistent throughout the entire year, which would forever change the economics of agriculture, he asserted.

Personal Food Computers

Harper also displayed the personal food computers developed at MIT, which offer a glimpse into the future of farming.

These computers can be built at home using open-source instructional videos and diagrams from MIT, and weather data from farmer's almanacs can help the user recreate climates from past years. The 'farmer' can manipulate the climate to measure how it affects a crop, or set up additional computers to compare different climates.

The computers also record huge amounts of data – more than 3.5 million pieces of information – to create an extensive, shareable knowledge base.

So far, computers have been given to schools around the United States, allowing young people to construct their own climates and discover more about the science behind farming and the potential future of the industry. Harper is also optimistic that this innovative project will inspire the next generation of farmers and help save the future of the industry.

Sustainability Through Technology

The hardware, software and data for the personal food computers is all open source. This allows people around the world to build them, use them and discuss their findings in online forums, thus furthering the technology, Harper explained.

His ultimate vision is for shareable data to replace the concept of shipping produce all over the world. Using the data shared between food computers, countries will be able to grow fruits and vegetables that they would otherwise have to import due to climate restraints.

Eventually, more investment will be needed, but with 20 countries on six continents already taking part, Harper is confident that knowledge is being gathered which could help create sustainable food for the future.

The world is dealing with 'a very big, very global farm'. While this was fit for purpose in the 1970s when the demand was for more food at lower prices, now the emphasis is on producing food that is more sustainable and nutritious. The personal food computers, he concluded, are a way forward that can help achieve just that.

KEY POINTS

- **People are increasingly leaving traditional farming**
- **Young people need to be inspired by innovation to help save the farming industry**
- **Innovative techniques can produce better, more sustainable food**
- **By making these techniques open source, the network grows and knowledge is expanded**
- **Importing and exporting food could soon be replaced by sharing data**



**Dr Elizabeth Rhodes**

Basic Income Research Director of Y Combinator Research

Jonathan Matus (2)

Founder & CEO of Zendrive

Cade Metz (1)Senior Staff Writer for *WIRED* Magazine**Joe Brown (3, Left)**Editor in Chief of *Popular Science*, Moderator

Legacy Of **The 21st Century**

In Collaboration With *Popular Science*

Industry experts Dr Elizabeth Rhodes, Jonathan Matus and Cade Metz sat down with *Popular Science*'s Joe Brown to discuss the impact automation will have on employment.

In a lively panel discussion, the artificial intelligence (AI) experts were clear that driverless transport is imminent. They also asserted that the social impact will be huge, mirroring an anticipated shift in many areas, where automation will reduce the amount of time people spend working. Policy-makers have two possible options for addressing this challenge: pay people a 'universal basic income' (UBI) to compensate, or invest in training for other roles. Although there is no clear answer, the panel suggested that a solution with a balance of both should be explored.

The Arrival Of Automated Transport

Matus, whose company Zendrive has developed software to assess the behaviour of drivers straight from their smartphones, predicted that self-driving trucks, or robo-trucks, could see commercial use within two years, with widespread uptake in as little as five to seven years.

He listed four factors that influence this timeline:

1. For those involved, what are the financial incentives to make it happen?

He quoted a Morgan Stanley survey, which suggested AI could generate \$168 billion in savings in the global economy – so the financial incentive is certainly there.

2. How complex is it to solve the problems associated with this technology?

He explained that it is easier to implement driverless transportation in 'highway' driving contexts than urban contexts. This means, firstly, that self-driving trucks may well be rolled out before taxis. Secondly, there may be a solution in which robo-trucks conduct highway sections of driving and humans complete the final few urban miles.

3. How strong is the human parameter?

In other words, how much will – for example – taxi drivers and their unions resist the automation of their industry?

4. How expensive is it to build robo-trucks?

This forms another part of the case for trucks coming before cars, he said. While driverless cars need total design, trucks could simply be retrofitted with sensors.

The Impact On People

Agreeing with Matus' assessment, technology journalist Metz pointed out that the first successful delivery already happened last year. On the other hand, he cautioned, it would only take one serious accident to set the industry back years.

He raised the issue of how automation will impact society, suggesting the ideal scenario is one where it complements rather than replaces human employment.

Brown, Editor in Chief of *Popular Science* magazine, quoted a statistic that 30 of the 50 American states listed 'truck driver' as their number one occupation. If all those jobs disappeared, the impact would be huge.

What Can Policy-makers Do In Response?

The panel debated two possible responses to that scenario:

- 1. Pay people a UBI to compensate for lost work hours**
- 2. Retrain and educate them to do new and different things instead**

Dr Rhodes, an expert on UBI schemes implemented for various reasons around the world, was present via Skype. She suggested that UBI could have a role to play. It would provide a 'safety net' that enabled people to spend time moving towards the new labour landscape.

Metz agreed, though he pointed out that the sums involved could be huge. There is also the danger that people would use the safety net of UBI-funded time to 'do nothing', rather than find new ways to contribute to the economy. For that reason, he suggested it may be better to feed this new future by investing in education and training rather than UBI. Education takes time, however, which makes UBI an appealing answer.

Matus suggested policy-makers adopt a view that is both short- and long-term. In the long term, if jobs vanish, governments would clearly need to train people to do something else, and build a new prospect of economic freedom. In the short term, however, there may be a five to 10 year period when the fruits of investment in training and education would not be seen. Unless this is addressed with tactics such as UBI, it could lead to social discord.

3 CONCLUDING RECOMMENDATIONS

- 1. People may say they know what will happen with AI, but the truth is they do not. Similarly, it is unknown how many jobs it will create, versus how many jobs it will eliminate**
- 2. AI should be allowed to develop free of regulation, all around the world – a barrier Matus dubbed 'technological protectionism'**
- 3. Governments should always look beyond the facts and figures of technologies such as AI, and focus on empathy. Technological advancement always carries a human dimension and governments should invest in educating society about the issues surrounding AI**



**Prof Ed Diener**

Distinguished Professor of Psychology at the University of Illinois

Why Should Governments Take **Psychological Well-Being** Seriously?

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All the things we want are abetted by happier citizens

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Happiness helps people live better lives and creates a cohesive society that is healthier, resilient and more productive. Professor Ed Diener, a leading researcher in positive psychology, revealed there is compelling evidence that happiness really does matter.

Prof Diener, who is credited with conceptualising one of the earliest ways to empirically measure happiness known as 'subjective well-being', told the audience of leaders and policy-makers that governments must put well-being higher up on the agenda and take it seriously. Well-being – which he defined as covering many aspects of life such as happiness, enjoyment, positivity and sense of purpose – is as fundamentally important as issues like health, clean water and poverty, he said. He urged governments to measure well-being and use these results to help draft policies that will increase happiness.

Why Does Happiness Matter?

The American psychologist and professor shared some of his findings following 15 years of research into the causes of happiness, and what happiness leads to. Prof Diener said that the pursuit of happiness is neither hedonistic nor stupid. "It is a necessity, not a luxury," he added. "I have been amazed at the consistency in evidence that happiness leads to better health. It increases your tendency to be healthy and live longer, and improves your social relationships, work performance, creativity and energy."

Happiness Is Healthy

It is a widely held belief that happy people live longer, and Prof Diener elaborated on this with proven links between well-being and good health. Happiness is good for your heart, he said. It improves your cardiovascular health, reduces the risk of stroke, and lowers the chances of having a second stroke.

As well as having a stronger immune system, happy people tend to adopt wholesome behaviours such as not smoking, exercising, drinking less alcohol and wearing seatbelts.

Prof Diener illustrated his point by referring to the *Nun Study of Aging and Alzheimer's Disease*. The study followed a group of nuns aged 25 years for a 50 year period, and found that the happy nuns lived 10 years longer than the unhappy ones, despite all sharing the same diet and living conditions.

He also shared the results of a 10 year study of a group of 50 year-olds that was conducted in the United Kingdom (UK). After a decade, there was a huge difference in the mortality rate between the who enjoyed life the most and those who had a less enjoyable experience; the life expectancy was higher for the happiest people.

Happiness Is Productive

Happiness gives organisations a huge advantage in a competitive world, said Prof Diener. He illustrated this by referring to evidence that shows companies with a happy workforce are 6% more productive.

While there may be a connection between income and happiness, Prof Diener appealed to employers to take note of the link between workers' happiness and their productivity.



COMPANIES WITH A HAPPY WORKFORCE ARE **6% MORE** PRODUCTIVE

HAPPY **16 YEAR-OLDS** ARE MORE LIKELY AS ADULTS TO GET AND STAY MARRIED

IN **166 COUNTRIES** WORLDWIDE, ACCESS TO BASIC NECESSITIES CONTRIBUTES TO HAPPINESS

Employers really should care about happiness in the workplace, he said. "Happy workers are more likely to be creative, you don't have the expense of high turnover of staff, and there is less absenteeism. Also, these workers are better citizens at work; in other words, they do things that aren't required by their job to help others."

Happiness Is Togetherness

Diener drew attention to the question of whether happy people get married or marriage makes people happy.

"It's not just that a happy marriage makes you happier, it goes in the other direction," said Diener, himself a happily married man of 54 years. He expanded on this by saying that happy 16 year-olds are more likely as adults to get married – and stay married.

A Recipe For Happiness

Being happy is not just about feeling good, according to Prof Diener.

"It helps society function so much better. All the things we want are abetted by happier citizens." He went on to illustrate this with further examples.

There is evidence to suggest that happier people help others around them to become happier by donating blood, giving money to charity and helping those in need. Whereas depressed people choose to watch television rather than exercise, happy people are more likely to be active, interact with others, read, and exercise.

Happiness is also about being able to cope effectively with the inevitable bad times, suggested Prof Diener. It gives people the resilience to 'bounce back' from events such as bereavement, and reduces the likelihood of depression, post-traumatic stress disorder (PTSD) and other mental health conditions.

7 ROOT CAUSES OF HAPPINESS

If happiness matters so much, it is important to understand the causes. Prof Diener offered insight into what makes us happy by highlighting the following factors:

1. Basic needs

In 166 countries worldwide, access to food, water and other necessities contributes to happiness.

2. Work

While income and benefits contribute to happiness, other factors such as job satisfaction and flexible hours are also very important.

3. Government

An efficient, effective and responsible government makes people happy.

4. Employment

Having a job promotes happiness, while the scarring effect of unemployment tends to be lasting.

5. Equality

It is important for people to have equal access to opportunities, rights and resources.

6. Environment

Green spaces, clean air and plants make people happier.

7. Mental health

Mental illness lowers happiness levels in the patient and those around them.

**Isha Datar**

CEO of New Harvest

Naoufer Ramoul

Anchor & Producer for Dubai TV, Moderator

Bio-Engineering

Eggs Without Hens

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It seems only natural that we would move to an era where we can cultivate foods in a controlled setting

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In an attempt to reduce the amount of greenhouse gases being released into the atmosphere, scientists are looking at innovative ways to reduce the use of animals in agriculture. Meat, milk and eggs are some of the biggest contributors to environmental degradation and, in total, animal agriculture produces more greenhouse gas emissions per year than all the fuel combustion in China.

One solution, says Isha Datar, CEO of non-profit research institute New Harvest, is cellular agriculture. The cell and molecular biologist started studying how agricultural products could be created from cell cultures rather than from whole plants or animals while at university in 2009. In 2013, she took the reins at New Harvest, which helps to establish the technology through incubating innovative companies in the field and funding research.

Produced in a controlled environment like a laboratory, cellular agriculture would not only take up less space on the planet than animal agriculture currently does, but also production would be protected from the elements including extreme weather events and natural disasters which can have a catastrophic effect on traditional agriculture. Additionally, any gases produced in a laboratory setting, which are harmful to the environment, can be captured and contained.

Control has been a recurrent theme throughout the history of meat production, explained Datar. Between 2 million BC and 8000BC, humankind progressed from hunting to domesticating animals. In the 20th

century, the production of meat became fully industrialised, with many standards and controls in place.

"It is not so illogical to presume that in the 21st century there could be a shift towards cultivated meat in a fully controlled setting," she concluded. "It seems only natural that we would move to an era where we can cultivate foods in a controlled setting which can overcome all the challenges that are coming with climate change."

Furthermore, meat, milk and eggs are some of the major causes of public health disasters which, Datar expressed, is another reason for additional control.

Climate Change

More than 14% of all human-caused greenhouse gases come from animal agriculture. The industry produces 7.1 gigatonnes (GT) – equivalent to 7.1 billion tonnes or 7.1 trillion kilogrammes – of carbon dioxide (CO₂) every year.

Datar added that 2.6GT of another greenhouse gas, enteric methane, is also produced by the guts of sheep, goats and cattle. She said that over the course of 100 years, methane is believed to have 34 times more the global-warming impact of CO₂, and that she

thinks the 100 years estimate is not entirely accurate. Instead, she uses a scale of 20 years, and believes that methane has 86 times the potential to cause global warming compared to CO₂.

Not only does animal agriculture have an impact on climate change, but the reverse is also true with climate change causing inefficiencies in animal agriculture. Temperature rises beyond the animals' optimal temperature, caused by climate change, can affect the productivity as the animals expend their energy regulating their temperature.

As climate conditions vary further, there is a risk of animals becoming less healthy and less productive. Datar concluded therefore that reducing the scale of the animal agriculture industry may actually be one of the best ways to save it.

How Much Will It Cost?

So far, one burger has been fully produced using cellular agriculture, and it cost \$300,000. The public can expect prices to fall lower, however, as the technology is better developed. The cost of cellular agriculture will, in fact, become an incentive for producers to shift towards cultured meat, Datar claimed, forecasting an increase in the price of meat as land space for agriculture becomes more scarce and governments decrease subsidies for agriculture.

The price of cultured meat is astronomically high because it is still in the experimental stage and has only been manufactured as part of a series of laboratory experiments. Once the formula for cultured meat is perfected, the products can be mass produced on an industrial scale, she predicts, causing the price to fall dramatically.

7.1GT OF CO₂ ARE PRODUCED BY ANIMAL AGRICULTURE PER ANNUM

14% OF ALL HUMAN-CAUSED GREENHOUSE GASES COME FROM ANIMAL AGRICULTURE

ONE-THIRD OF THE PLANET'S ICE-FREE LAND IS TAKEN UP BY ANIMAL AGRICULTURE

2 CATEGORIES OF CULTURED FOODSTUFFS

1. **Products made by cells, such as milk, which is made from proteins and fats**
2. **Products made of cells, such as the muscle of a chicken or other meats**

HOW TO PRODUCE CULTURED MEAT

1. **Collect the cell culture from the animal (tissues or fat cells)**
2. **Attach the cells to a scaffold**
3. **Grow cells in a nutrient medium**
4. **Growth happens in a bioreactor**

BENEFITS OF CELLULAR AGRICULTURE

1. **Reduces greenhouse gas emissions**
2. **Requires less space**
3. **Is protected from extreme weather and natural disasters**
4. **Allows for more control over the food production process**





Dr Arjen Radder (3, Right)

CEO of Philips Middle East & Turkey

Dr Shamsheer Vayalil (2)

Founder & Managing Director of VPS Healthcare

Dr Andy Poh (1)

Adviser to the Healthcare Strategy & Policy Department of the Prime Minister's Office of the United Arab Emirates, Moderator

The Future Of Healthcare

In a panel discussion moderated by Dr Andy Poh, Adviser to the Healthcare Strategy & Policy Department of the Prime Minister's Office of the United Arab Emirates, two leading health professionals explained how the technology used every day by billions of people around the world will revolutionise the future of healthcare.

Dr Shamsheer Vayalil, Founder & Managing Director of VPS Healthcare, and Dr Arjen Radder, CEO of Philips Middle East & Turkey, agreed they are eager to see a shift from the traditional form of diagnosis and treatment employed in many hospitals, to a better use of technology to prevent illness.

Remote Monitoring

Both Dr Radder and Dr Vayalil agreed that a vast number of patients being treated in hospitals today do not necessarily need to be there and could instead be monitored from the comfort of their homes.

Dr Radder, who has a PhD in medicine and a wealth of management experience in healthcare organisations, said that as the world changes the types of conditions people have change as well.

Today, more and more people are suffering from conditions that are caused by sedentary lifestyles. Across the globe, 35 million people have diabetes, a third are overweight and 20% die of cardiovascular disease. Modern healthcare systems must find ways to adapt to deal with these issues, said Dr Radder, who is trying to change the way patients are treated.

"In the past, if you broke your leg you would go to hospital, get it fixed and then go home, but everything needs to be connected and this starts with healthy living," he asserted. "We cannot afford to have the people with diabetes or cardiovascular problems in hospital all the time – they need to be stable at home."

Medical Innovations

To this end, Philips has developed a biosensor to monitor the vital signs of patients without them being anywhere near a hospital bed, Dr Radder explained. The new technology works by placing it on a patient's chest for several weeks to measure eight different vitals. Combined with other available information about the patient, doctors can use this data to offer more effective treatment. "This is one small step, but a very important one," Dr Radder added.

Dr Vayalil's company is currently working in partnership with Abu Dhabi Municipality to trial a system that will help staff develop healthy habits. It also allows employees to access healthcare at the office instead of taking time off work to visit the hospital. VPS Healthcare has employed a primary care physician, set up a gym, spa and cafe serving healthy food, as well as provided staff with wearable devices that record biometric information.

Using Data For Prevention

Data is playing an increasingly vital role in monitoring people's health, the panellists agreed. Anyone with a smartphone can see the number of steps they have taken or how many calories they have burned.

"Data is the new oil. We call it the new currency," said Dr Vayalil. "The patient can become more responsible and can become the CEO of their own health."

This information could be adapted to prevent illness. By monitoring the data, doctors would be able to see when a person is tired or not doing enough exercise, and then intervene before disease develops. It has the potential to transform the traditional reactive

approach of the healthcare industry to one that is proactive and preventative.

"You are in constant communication with a patient through a smartphone. It tells the doctor if their muscles are fatigued or if they are heading towards depression," said Dr Vayalil. "There will be a shift from the break-and-fix approach to a predict-and-prevent model."

The Personal Health File

Dr Radder believes technology is allowing people to take more control of their health through the huge amount of data available.

He explained: "It starts with people wanting to take control of their own lives. A lot of people wear something on their wrists that records data – I call it the personal health file. You can go to the doctor with this file and compile an electronic record, so you have a great richness of data."

He cited a study that his company conducted which monitored the activity of citizens in 13 countries, revealing that people are most active the first and second week of January. After those two weeks, activity levels decrease. In the future, the healthcare industry won't need surveys like this. Instead, doctors

will have access to this same data in real time, allowing them to spot the downward trend early enough to intervene and advise patients on how their health was being affected.

Personalising Medicine

For Dr Vayalil, the current problem affecting medicine is wastage. He explained that too many drugs are being prescribed without the doctor even knowing if they will work. There needs to be a system in place, he argued, that indicates which medications are best for a certain group.

Personalising medication through 'genetic mapping' is one solution to this problem, he suggested. Using this method, doctors can look to a person's unique genetic profile to help them tailor a treatment, or even a prevention, regimen that is right for that individual.

According to Dr Vayalil, this approach would help governments tackle diseases like cancer and reduce the amount spent globally on medicine.

KEY POINTS

- **Advances in technology are revolutionising medicine**
- **The healthcare industry should shift away from the traditional model of diagnosis and treatment to one that focuses primarily on prevention**
- **Many patients being treated in hospitals could be monitored and treated from their homes**
- **Wastage is one of the biggest issues affecting medicine today**
- **Smartphones and biosensors that monitor vitals could allow doctors to intervene before disease develops**
- **Adopting new technologies across the medical field could help governments tackle disease and reduce the amount spent on healthcare**





Arab Youth Forum

Young leaders from 22 Arab countries brainstormed ways to influence the future of their region at the Arab Youth Forum, which took place during the three days of the World Government Summit. Held under the patronage of His Highness Sheikh Mansour bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs for the United Arab Emirates, it is considered the first event of its kind to bring together the brightest young Arab minds to discuss their dreams and shape a better future for their countries and the Arab world.



**Joseph Aoun**

President of Northeastern University

Hend Al Otaiba

Director of Strategic Communications for Abu Dhabi Media, Moderator

The Future Model Of Higher Education

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The university has to come to you; you don't have to go to the university

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Visionary educationist Joseph Aoun gave a stark warning that in the next 15 years, 45% of the jobs known to us today are likely to disappear due to advances in robotics and artificial intelligence (AI). This scenario poses a serious challenge for higher education, he said, emphasising that it must be remodelled to prepare students for a life that is rapidly evolving.

While Aoun, President of Northeastern University in Boston, United States (US), said that white-collar jobs involving financial analysis and accounting are bound to decline, there will be a constant rise in hitherto unknown jobs such as data visualisation and forensic technology that will need to be filled.

He stressed that simply earning a couple of degrees would no longer suffice to make us and our careers 'robot proof', which would instead require a drastic overhaul of the current higher education model.

A New Model For Education

Known for spearheading an innovative model of experiential education, Aoun introduced the concept of 'new literacy', which will be imperative for every future student to master. According to him, new literacy involves a combination of tech literacy, data literacy and humanics, or the essence of humanity that differentiates people from machines.

Aoun emphasised that these cognitive capacities are essential, but unfortunately higher education has not focused on them so far. To rectify this, he prescribed a life-long learning model that incorporates two long-term educational approaches, each of which caters to a specific type of learner.

Undergraduate Students

Aoun described undergraduate students as learners who are 'short on experience and long on time'.

As an internationally renowned scholar himself, Aoun pointed out that higher education has created "a dichotomy between learning to live, and learning to earn a living". He explained how experiential learning was the way forward, as it would ensure that students would acquire a substantial body of work experience by the time they graduate university. In simple terms, it is about integrating the classroom experience with real-world experience.

Aoun cited the example of his own Northeastern University, where such a model is already in place. Known as the university's signature co-op programme, students accept six-month internships at one of the 3,000 international organisations with which the Northeastern has a partnership.

"They have a mentor in the company and we're in constant touch with them, integrating what they are doing as a learning experience and when they come back, the integration is fully executed," said Aoun, who is also Chair of the American Council on Education.



This way, the students understand their strengths and areas of interest, and the employer understands whether they fit the company.

"It gives them the ability to refine their knowledge, question their knowledge and constantly evolve with it. That's the beauty of experiential learning... And at the end, they are job ready, and that's why companies offer them jobs even before they finish," he explained.

Working Professionals

At the opposite end of the spectrum are working professionals, who Aoun described as being 'long on experience, short on time'. Aoun underlined their urgent need for integrated life-long learning in an age when machines are getting smarter and smarter.

The current higher education model assumes that all learners are full-time students and does not provide adequate platforms for adults who cannot afford or do not have the time to spend two more years in school. Many companies are bridging this gap by setting up their own internal universities. Aoun identified this as a dangerous trend, as it takes company resources and attention away from the core business.

Aoun urged the leaders and delegates to rethink the notion of full-time degrees, encouraging them instead to consider short-term certificate courses for working professionals. He shared another example from Northeastern, describing how his university provided hybrid-learning modules – both online and on site – for companies like IBM and Amazon in India, China, the Philippines and the US. With this model, the university comes to the learner, not the other way around, he asserted. Aoun said with great pride that Northeastern has already begun filling this gap with campuses across the US and in Canada for professionals.

He emphasised yet again that we are at a major turning point where AI is both creating and destroying jobs: "The implications for higher education are profound and we have to rethink our models," Aoun concluded.

**3 COMPONENTS OF
NEW LITERACY****1. Tech literacy**

This involves understanding technology and how information science impacts everything we do.

2. Data literacy

Simply put, data literacy is the ability to derive meaning from large amounts of data in order to identify market trends, co-relations, people's preferences or any other useful business information.

3. Humanics

Defined as the essence of humanity which distinguishes us from machines and allows us to feel empathy, humanics is perhaps the most important facet of new literacy, according to Aoun. "What makes us really human, more robot proof, is the ability to create – create new concepts, create new ideas, to be entrepreneurial, to understand different cultures, to be global," he said.

**Kathleen Kennedy**

Director of Special Projects for The Engine by the Massachusetts Institute of Technology

John Defterios

Emerging Markets Editor for CNNMoney, Moderator

The Global Revolution Of Innovators

// Our mission is to empower and enable the most radical entrepreneurs... And we want them to be able to make their dreams a reality

//

The world needs revolutionary innovators to develop technologies that address large-scale global challenges like energy shortages and climate change, said Kathleen Kennedy, Director of Special Projects for The Engine at Massachusetts Institute of Technology (MIT) in the United States.

MIT's new thrust is to provide such radical entrepreneurs with a strong ecosystem that nurtures their talent and aids innovations that require time to develop. The idea is to create 'innovation orchards' where talent can be harnessed, creative ideas get a fillip and funding can be channelled, Kennedy explained.

She stressed that while there's already an entrepreneurial ecosystem to create lifestyle companies and popular consumer apps, there is a void when it comes to supporting groundbreaking innovations.

"What about someone who is trying to create a nuclear power company? What about someone who is trying to create a new type of battery that will power an entire city? How are we supporting those people?" she asked.

Kennedy highlighted that such big ideas do not make it to market because they require large-scale funding. It is important to fund such innovations as the world and its ever-increasing population needs new types of energy, higher food productivity and new types of education and healthcare. This is where MIT's The Engine comes in.

The Engine

Launched by MIT in 2016, The Engine is a venture designed to support revolutionary entrepreneurs and start-up companies working on scientific and technological innovation with the potential for transformative societal impact.

"Our mission is to empower and enable the most radical entrepreneurs... And we want them to be able to make their dreams a reality," Kennedy said.

4 MAIN INGREDIENTS FOR SUPPORTING REVOLUTIONARY INNOVATORS

1. Money

High-potential innovators need 'patient capital' – investments that need longer time spans to mature. There is an 18 year \$150 million venture fund, of which MIT is contributing \$25 million, Kennedy revealed. She added that MIT will be building a syndicate of like-minded investors to fund the rest.

2. Incubator and accelerator programme

MIT is looking to support start-ups that are radical and innovations that take a long time to develop but do not have the necessary funding. Kennedy cited Leslie Dewan, the co-founder and CEO of a Boston-based nuclear energy start-up, and entrepreneurs building a grid-scale battery or creating a new diagnostics that will help millions of people as examples of the type of projects MIT is looking for. Once identified, MIT will put together specific programmes and building spaces required for each endeavour.

3. Access to equipment

Kennedy described how innovators like Dewan needed different kinds of equipment. While she was pursuing her PhD at MIT, she had access to millions of dollars of equipment, but upon leaving university, she no longer had that privilege. The Engine is seeking to solve the issue of access by unlocking all of MIT's equipment for these start-ups and by partnering with companies like GE, Flex and Autodesk. Through this programme, innovators can rent the equipment they need to build a prototype and advance their project, Kennedy explained. The Engine will also have several experts on board who can advise the entrepreneurs on building their companies and organising innovation, she added.

4. Invention education

MIT is thinking long-term, envisioning an entire pipeline of future entrepreneurs. Kennedy highlighted their 'invention education' programme whereby they want to encourage children to become innovators right from

primary school. The aim is to change children's mentalities, unlock their creativity, allow them to think big and "believe that if they can think it up, that it is possible", she explained. "Right now we're doing our pilot program where we're working with the Mayor of Cambridge and the school system of Cambridge to launch this invention education programme as part of The Engine," Kennedy shared.

The Engine's Future Vision

MIT's vision is to see their innovation project go global, complete with international exchange programmes.

"We wanted to be a programme that will really open to the world and partner with everyone around the world, because ultimately, for these entrepreneurs to be able to address these big global challenges, they need to be talking to people in the world, they need to be interacting with people who are actually facing the challenges themselves," Kennedy emphasised.

About the immediate future, she said they expect to have about 40 to 60 start-ups and entrepreneurs involved with The Engine within the next two years.

KEY POINTS

- The world needs innovators to develop technologies that address global challenges like energy shortages and climate change
- There is a gap in the market when it comes to funding groundbreaking innovations
- Radical entrepreneurs need a strong ecosystem that nurtures their talent and aids innovations that require time to develop
- MIT launched The Engine to support revolutionary ideas that need time and large amounts of funding to be realised





Paul Bennett (1)
Chief Creative Officer at IDEO

John Defterios (2, Left)
Emerging Markets Editor for CNNMoney, Moderator

Radical Curiosity

// Even though government is big, people want to participate – let them in

//

MEET PAUL BENNETT

Known as a pioneer of human-centred design, and describing itself as a specialist in human factors, psychology, business, design, engineering and manufacturing, IDEO was founded in California in 1991. The company now has offices in Cambridge, Chicago, London, Munich, New York City, Palo Alto, San Francisco, Shanghai and Tokyo. Paul Bennett has been with the company for the past 16 years and is currently its chief creative officer.

In his challenging and inspirational talk, Paul Bennett drew parallels between his work as a designer and the role of governments, concluding that the two share the same purpose. They both operate with the aim of activating the next generation – of youth, learners, citizens and entrepreneurs – through ideas and design.

One project that he described captured this shared purpose perfectly. IDEO, an international design and consulting firm based in California for which Bennett is the chief creative officer, had been approached by a leading Peruvian entrepreneur who wanted to improve the prospects of the middle class in his country. Together, they identified low levels of education as a factor. Peru ranked at the bottom of many educational leagues. The solution was a new school system, one built around a fresh set of values – such as exploration, collaboration and innovation – rather than traditional pedagogical approaches. The school, called Innova, now has 37 facilities in Peru, and educational proficiency has risen from 17% to 61%.

Common Ground

Bennett realised that his profession and that of leaders are alike when he spoke at an event in the Parliament of the United Kingdom. Prior to this, he confessed, he had found government confusing: "I didn't get government. I had no idea what you do – and all the talk of policies and frameworks seemed very complicated and clever."

When asked about what he did, Bennett replied that the role of designers was to go into the real world and talk to people about their problems, then together figure out ideas, and hopefully get those ideas out into the world.

Relating projects that he and his organisation, IDEO, had conducted in countries as diverse as Singapore and Rwanda, Australia and the Congo, Bennett explained that there are three techniques common to both successful design and successful government.



3 SHARED TECHNIQUES OF DESIGN & GOVERNMENT

1. Conducting open conversations

The importance of participation cannot be underestimated, he stressed. Inspired by a visit to TedEx in Dubai in 2009, his organisation created Open IDEO, which is a platform for conversations about important issues.

The popularity of this platform, and the diversity of topics it now encompasses, is proof of people's desire to get involved – a desire that governments need to heed.

Bennett cited the example of an Australian governor using the portal to ask for help in addressing poor life expectancy among the Aboriginal population in his country. The resulting debate eventually led to the creation of Aboriginal cooking schools and cookbooks, which directly addressed the issues of health and diet that were fundamental to the problem. This showed there is a direct correlation between 'ask' and 'do', he concluded.

2. Being generous

The number one form of leadership is the ability to let go and not to hold on, Bennett suggested. Generosity is an essential human trait, one that governments need to demonstrate as much as they can.

IDEO has implemented its own version of generosity by creating IDEO.org, a way for the design firm to offer its services to nations that cannot always afford them. To date, this has led to projects in 64 countries, covering work as diverse as water purification in Ghana and women's rights in Bangladesh.

3. Acting with humility

Bennett suggested that everyone who works in public service should regularly ask themselves: 'have I had one of those moments when I truly understand why I am here?' The role of the public sector is to give people the tools that enable them to create a better life, he said – and sometimes that should humble us.

The Radical Manifesto

Bennett concluded his talk by highlighting the fact that we are living in radical times, which requires leaders to themselves be radical in empathy, aspirations, humility, collaboration and curiosity. In all of this, optimism and hope are the most powerful tools we have at our disposal, Bennett advised – both as designers and as governments.

5 POINT PLAN FOR RADICAL LEADERS

1. Be radical in empathy. As often as we can, we should try to understand what it feels like to be somebody else
2. Dream radical dreams. Being bold and ambitious will create the future
3. Practise radical humility
4. Encourage radical collaboration
5. Be radically curious

**Dr Scott Barry Kaufman**

Scientific Director of the Imagination Institute

Hend Al Otaiba

Director of Strategic Communications for Abu Dhabi Media, Moderator

Can Our **Education Systems** Destroy Talent?

// We should leave more room in our school systems for children to surprise us

//

Nurturing children's imaginations could be the key to world peace. Leading cognitive psychologist, Dr Scott Barry Kaufman, explained his views on why traditional ways of preparing children for the future are inadequate.

In a thought-provoking speech, Dr Kaufman, an author and researcher specialising in aptitude and creativity, suggested that the traditional ways of measuring intelligence and ability – and therefore of educating children and preparing them for their future – are inadequate and limiting.

Instead he proposed that a new approach is needed; one based on nurturing the characteristics that relate to imagination and openness to experience.

Dr Kaufman, Scientific Director of the Imagination Institute, which is a body dedicated to advancing the use of imagination in all areas of life, said he is driven by his own lifelong passion and curiosity into what everyone is capable of achieving in life. This passion has led him to become the co-founder of the non-profit online platform for content and discussion around creativity, The Creativity Post, and also the host of The Psychology Podcast.

His session at the World Government Summit built from a dynamic and comprehensive reassessment of education into asking a significant question: If imagination is essential to compassion, and compassion is essential to world peace, then what should we teach today to ensure a better tomorrow?

What's Wrong With The Traditional View Of Intelligence?

Dr Kaufman described how, for the past 100 years, society and educators have been good at measuring intelligence in certain accepted ways, including literacy, numeracy, memory and, in particular, the IQ test. These methods do not, in his view, get the best out of students.

He shared the work of researchers such as the American psychologist E. Paul Torrance to support this theory. Over 50 years, Torrance and his successors tracked a group of students into their adult lives. They found that their IQ levels had, in fact, almost zero relevance to these individuals' lifelong creativity. Instead, a clear set of personal characteristics proved much more significant and relevant.



PERSONAL CHARACTERISTICS THAT DETERMINE ONE'S FUTURE

- **A love of work**
- **The ability to persevere**
- **A sense of purpose in life**
- **Tolerance of mistakes**
- **Openness to change**
- **Risk-taking**
- **Feeling comfortable with being 'a minority of one', meaning that even if they are the only student in a class who believes in an idea, they are able to stay true to their belief**
- **Imagination and passion**

Dr Kaufman's belief is that, around the world, education systems don't do enough to support these characteristics. By still focusing primarily on a conventional IQ-based mindset, these skills are in danger of falling by the wayside.

The Importance Of Imagination

It's the last of Torrance's characteristics that has inspired Dr Kaufman and his colleagues to set up The Imagination Institute. This organisation runs numerous initiatives around the world,

exploring the potential of imagination – particularly within educational contexts. Training teachers in incorporating imagination is fundamental to many of these projects.

The institute's ultimate aim is a new equivalent to the longstanding IQ test; one that measures our imagination quotient, not just our intelligence quotient. Because, as he pointed out, how often do we stop to consider that the contents of someone's dreams are just as – if not more – important than the content of our curriculums?

The Imagination Network

In his work, Dr Kaufman has identified a part of the brain he calls the Imagination Network. This is associated with what happens when our brain is 'at rest' – a time when we tend to think about the future, explore personal goals and mull over unresolved issues.

It is in this part of the brain that people are able to 'fall in love' with a dream and future vision of themselves. The stronger this vision is in someone, the more likely they are to achieve and succeed in life. It is far more significant than a high IQ. Therefore developing this part of the brain is as important as

developing those traditional measures of intelligence. The end result – the 'sweet spot', in Dr Kaufman's view – is the nurturing of students who grow up to become both dreamers and doers. This is the combination that truly matters in everyone.

KEY RECOMMENDATIONS

Dr Kaufman recommended policy-makers leave more room in educational policies and models for children to surprise educators and to develop their brain's 'imagination network'. In particular, this involves enabling and encouraging them in:

- **Daydreaming**
- **Imagining and planning their future**
- **Monitoring their own emotional states**
- **Retrieving personal memories**
- **Attaching personal meaning to things**
- **Reading fiction**

**Thomas Koulopoulos**

Founder & CEO of the Delphi Group

John Defterios

Emerging Markets Editor for CNNMoney, Moderator

Gen Z: They're Coming & They'll **Disrupt Governments**

//

Gen Z is not about birthright;
Gen Z is about behaviour

//

Known as one of the industry's leading futurists and co-author of *The Gen Z Effect*, Thomas Koulopoulos put forth the radical idea that regardless of when we were born, we are all members of Generation Z, or Gen Z – the demographic cohort following the millennials. He emphasised that Gen Z is the 'first truly global generation' and that its ideas and innovations would change the way societies and governments operate.

In today's post-generational world, we are less defined by our age than by our behaviours, Koulopoulos contended, and Gen Z's behaviours are a necessary part of the social structure we all inhabit. He envisioned a future where multiple generations work together with a greater capacity to innovate.

He emphasised that Gen Z is cross-cultural, taking pride in and celebrating heritage, while also embracing 'the tolerance of true globalisation'.

Ultimately, Gen Z will disrupt the way societies and governments are structured and how they function at present through six factors and behaviours that characterise this new generation.

Hyper-connectivity

Hyper-connectivity is immutable and happening now, said Koulopoulos, Founder and CEO of the Delphi Group, a Boston-based think tank that provides strategic advice to Global 2000 organisations and government agencies. He drew attention to how the simplicity and affordability of technology is uniting generations more than it is dividing them.

Taking the audience through a quick time lapse, Koulopoulos painted a dramatic picture of connectivity, starting with just a few mainframes back in 1960 and progressing through to PCs, laptops, mobile devices, the cloud and so on. According to him, the number of user-computing devices has increased by one order of magnitude every decade since 1960. Applying that formula, he calculated there will be 100 times as many user-computing devices as there are grains of sand on all the beaches in the world by 2100.

The best way to see this future hyper-connected world is to look at children and their behaviours, he said. While in earlier decades children played outside, youngsters today socialise online, often with people who are located all around the world.

Demographic Inversion

Koulopoulos talked about a demographic inversion that will change the very structure of society. Looking at the conventional population pyramid with older people on top and younger people on the bottom, he said that the pyramid itself would disappear as both the base and the middle are growing. This world of the future will have five, six or seven generations working together, he said, adding that this diversity would lead to a greater capacity to innovate. Therefore, he urged the audience to take pride in their behaviour, not in their generation.

He also envisioned increasing life expectancy, which would lead to increased work-life expectancy as well. By 2100, he expects these two lines to merge as people will want to be intellectually and economically engaged for as long as possible.

Uncertainty

The rise of uncertainty, Koulopoulos pointed out, could be seen in the changed political scenario in the United States (US), the Brexit phenomenon and nearly everywhere else around the world. He stressed, however, that uncertainty breeds opportunity, and members of Gen Z are ready to seize these opportunities.

Friction

With governments becoming more complex, Koulopoulos believes it is essential to move to a 'friction-less government'. For this, we must move away from the siloed set of government policies and procedures to one where we understand citizens and focus on outcomes, he added. "Gen Z will not tolerate friction. They will find their way around it. They will hack the system until they eliminate the friction."

Education

Making a bold prediction, Koulopoulos stated: "We will, in the next 50 years, educate every human being that has the capacity to be educated."

He attributed this dramatic shift to MOOCs, or 'massive open online

courses', which aim for unlimited participation and open access via the web. This shift could ensure more graduates in 50 years than in 'the entire history of civilisation'.

According to his vision, this highly educated world will demand transparency of governments, society, organisations and individuals.

Transparency

Koulopoulos highlighted direct communication, such as tweets from US President Donald Trump, as an indicator of transparency: "Direct communication without the intermediary, that is what Gen Z demands. They need it... And the reason they need it is because they need to collaborate."

He cited Easton Lachappelle, the American teen inventor who used 3D printing to revolutionise prosthetics, as an example of how transparency and technology will go together. Lachappelle built a prosthetic limb at a fraction of the market cost, and then made the design available online as a free download.

Koulopoulos's conclusion was that one must never believe that we have invented everything because the reality is that there is always more ahead of us.

"Gen Z will create a world that, in my mind, has much more opportunity, is much more humanistic, than anything we've seen up until now."

6 DISRUPTIVE BEHAVIOURS OF GEN Z

1. **Coming of age in a hyper-connected world, Gen Z will be united through technology**
2. **With the traditional demographic pyramid disappearing, multiple generations will collaborate to increase people's capacity for innovation**
3. **The climate of uncertainty that exists in the world today creates opportunities that members of Gen Z will be eager to seize**
4. **Gen Z will demand friction-less governments that understand citizens and focus on outcomes**
5. **In 50 years, everyone who can be educated will be, and this highly educated generation will demand transparency from governments, society and organisations, as well as individuals**
6. **Gen Z will expect direct communication from governments**



**Dr Rick Hanson**

Senior Fellow of the Greater Good Science Center at the University of California, Berkeley

Inside The **Happy Brain**

// GDP is not a sufficient statistic for feelings

//

There is a connection between brain activity and income, but this does not constitute true happiness.

The mere fact of outperforming a neighbour creates a flow of oxygenated blood, which sends a signal to the ventral striatum, the reward area of the brain, explained psychologist Dr Rick Hanson. The effect is relative, however. This means that an overall increase in GDP does not make for a happier society, rather a neutralising of genuine pleasure. As people earn more money, they actually lose their ability to find real pleasure and, instead, feel a superficial, materialistic type of happiness, he said.

Alternative Economics

Traditionally, economics has been described as a social science concerned with the efficient allocation of scarce resources. This definition came about in the 1930s when the world was suffering from hunger and shortages. Dr Hanson believes this view of economics is outdated, and so he has suggested an alternative definition: "Economics as a social science is concerned with the best way to allocate plentiful resources to maximise happiness and mental health in society."

The Relationship & Income Curve

Dr Hanson explained that studies have shown there is a curved relationship between income and happiness. One of the general problems with research that attempts to measure success in terms of income or GDP, however, is the level of participants' honesty, he said. If during the research process, one is asked how they feel, it is possible that there could be a significant difference in how they actually feel and what they report.

For example, many people would perceive someone who has a high income, a good job and a nice house, as having the 'perfect life'. The social pressure of this image, however, might make the participant feel obliged to pretend they are happy, thus perpetuating the idea of a correlation between happiness and income, he suggested.

Researchers have not always taken this into account when measuring how happiness and income are related. Dr Hanson explained this further, suggesting that "even if we measure and estimate the level of happiness and income on a curved scale, we cannot be certain that true happiness is related to income". Perceived happiness, particularly when linked to income, is not the same as true happiness, he asserted.

Ways To Measure Happiness

There are better ways to measure feelings and happiness besides comparing GDP. Dr Hanson cited a recent official survey conducted by the United Kingdom's Office for National Statistics which asked a series of questions related to happiness. Using a scale of one to 10, participants answered

questions such as 'How satisfied are you with your life?'

Although anonymous surveys can also fall victim to the problem of participants not truthfully reporting their feelings, these types of questions are probably a more accurate gauge of happiness than solely measuring the rate of income, said Dr Hanson.

Social Competition

It is difficult for people to avoid comparing what they have with what others possess. This social competition affects the ventral striatum – the human brain's reward centre. The mere fact of outperforming one's neighbours will send a surge of oxygenated blood to this area, which makes people feel good, Dr Hanson explained.

The downside to this, he said, is that within the brain there is "a pure relative effect that giant GDP is bringing us all up, and the result is a neutralising of genuine pleasure". Simply put, this means that as a person earns more and more money, they are actually losing their ability to find real pleasure. Instead, they feel a superficial, materialistic type of happiness that does not last.

All over the world, researchers have observed a mid-life dip in happiness that they don't understand. In a wealthy society in which the "people are running faster and faster but at the same time comparing themselves to others, whilst the world around them falls apart, and inside their heads everything is relative, is that a rational future?" Dr Hanson asked, alluding to the fact that people will never be truly happy if they base their happiness entirely on comparing and competing with one another. People cannot ignore the world around them and focus on measuring success solely in terms of income because that is happiness based on perception and materialism alone.

In 1934, Simon Kuznets, the Nobel Prize winner and creator of the concept of GDP said: "The wellness of a nation can scarcely be inferred from a measure of national income." What this means, Dr Hanson concluded, is that "you cannot tell whether a society is happy purely by measuring its GDP".

DR HANSON'S KEY OBSERVATIONS

- **Feelings matter**
- **GDP is not a sufficient statistic for feelings**
- **As people get richer, money matters less**
- **Social competition does not create happiness**
- **Better ways of measuring feelings have been developed in recent years**



**Dr Robert Waldinger**Director of the *Harvard Study of Adult Development*

A 75 Year Study On Human Happiness

// Giving our full attention to a human being is maybe the greatest gift we can offer

//

When two groups of young men with completely different backgrounds became the subject of study by academics at Harvard University, nobody knew how long it would last.

Most studies of a similar nature come to a natural conclusion after a couple of years when participants drop out. It was considered the same would happen with the *Harvard Study of Adult Development*. The professors and doctors running it never considered the possibility it would run throughout the men's adult lives and follow them every step of the way.

The World's Longest Study Of Adult Life

Dr Robert Waldinger, a psychiatrist and psychologist at Harvard Medical School, is the fourth director of what he believes is the world's longest survey of adult life.

The project began as a study of a group of 19 year-old Harvard students and a cohort of boys from Boston's poorest families in the 1930s. Among the participants was former President John F Kennedy, newspaper editors, factory workers, people who fell from the top of the social ladder and those who started at the bottom and climbed to the top.

The study followed the teenagers through World War II and into marriages, jobs and pensions. They were examined and interviewed, had their brains scanned, and were recorded telling their wives about their deepest concerns to provide a comprehensive review of what made them happy.

Most of the men who originally signed up for the study are now in their late 80s and early 90s, but all of them have helped provide a rounded picture of how emotions have an impact on adult life.

The Key Findings

- **As life moved forward, close relationships determined the men's health. "If they had more connections during middle age, they were less likely to develop arthritis, diabetes or cognitive decline," Dr Waldinger said, adding: "Those involved in terrible, acrimonious relationships saw their health decline faster than those in loving relationships"**
- **Levels of happiness fluctuated throughout the men's lives, especially at key points in relationships**

5 THINGS THAT MAKE PEOPLE HAPPY

1. Social support
2. Expecting a healthy lifestyle
3. Freedom to have more choices
4. Trust in each other and in their government
5. Generosity



- **Marital satisfaction was found to be at its highest when they first got married, it dropped when their first child was born, increased when the children left home and only spiked again if children moved back home**
- **The people who were most satisfied during their 50s were healthier as they reached the age of 80**
- **Those who experienced loneliness saw an earlier decline in their health, earlier cognitive decline and they died sooner. Dr Waldinger identified this as one of the more worrying trends, calling loneliness a 'toxic' emotion**

How Happiness Is Changing

Happiness studies conducted over many years find that social support, good healthcare and a freedom to make choices make people happy. Recently, however, studies have found that this has not been the case with the new generation.

Millennials, defined as anyone born after 1984, often list huge goals when they are asked what they would like to achieve from life. They want wealth,

fame and fortune, compared to the men from the *Harvard Study of Adult Development* who simply longed for a happy relationship. Dr Waldinger, who is also a Zen priest, believes the trend among millennials is the result of a warped view of the world caused by social media and advertising, which disconnects them from reality. He reported that 80% of young adults said their most important goal in life was to get rich. More than half say another major life goal is to become famous.

"If a visitor came to Earth and looked at what life is like through Facebook, they would think we are always on vacation or at a party," he asserted. "Social media creates a misconception that everyone is happy all the time, when this could not be further from the truth."

Rather, it leaves people with a sense that everyone else's life is better than their own. They should instead put away their smartphones, interact with other people and eat with their families at the dinner table. "Families who regularly eat together find their children are more successful in school and they get into less trouble with drugs," Dr Waldinger concluded.

DR WALDINGER'S TAKE-HOME MESSAGES

- **Human connection is vital for happiness and health**
- **Depending on how it's used, technology can isolate people or connect them**
- **People should pay more attention to investing in relationships as a form of self-care**

**Dr Carrie Exton**

Policy Analyst for Measuring Well-Being & Progress at the Organisation for Economic Co-operation & Development

How's Life: The OECD Framework

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The question of what makes a good life is something that governments implicitly answer every time they spend money

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The question of what makes a good life has been troubling philosophers for thousands of years, but what does that mean for governments, and what can it teach policy-makers?

According to Dr Carrie Exton, author of the Organisation for Economic Co-operation & Development's (OECD) report on measuring well-being across nations, this question is at the heart of the policy decisions any country makes.

Governments should be trying to raise the well-being of their societies, Dr Exton said, and to do that they need to know how their decisions are affecting people's lives.

Money Isn't Everything

Traditionally, it has been economic activity – GDP – that has acted as a measure of how well countries are doing. But, Dr Exton said, this purely money-based measure misses out some key factors like who might be benefitting from any growth or how sustainable that growth could be in the long term. And of course, it overlooks important aspects, like clean air or social connections, which do not have a monetary value but are still important to anyone's well-being.

"Money is important, there's no question. It gives us the freedom to choose and the means to buy things that we value to deliver the well-being we are seeking, but it is not in itself a measure of the success of societies. It is a means to an end, not an end result," Dr Exton said. "As a measure of progress, it's not going to cut it."

As the saying goes: "some things are priceless, and for everything else there's GDP," she added.

OECD's Better Life Initiative

Governments do need a way of measuring the well-being of their societies, however, and that must come from a debate that goes beyond statisticians and policy-makers to psychologists, philosophers, academics of all disciplines, government ministers and, crucially, the public. In 2011, the OECD launched the Better Life Initiative, reshaping its mission towards 'better policies for better lives'.

To achieve that goal, the organisation has been trying to develop well-being as an alternative measure of performance. It has created a dashboard that measures current well-being factors and how sustainable that well-being might be in the future – whether the country has the environmental resources, the health and education provision, the economic capital, and trust in society it needs, among other things.

It's a focus on people rather than just the economy and considers, for example, household disposable income, rather than the money available in the economy at large. It looks at inequality, objective living conditions, and at subjective ideas of how people feel about their lives.

It is also sustainable, Dr Exton said, because it is interested in both current

well-being and the resources available – from the environment to education – to maintain that well-being in the future. Crucially, it is a list of ingredients rather than a prescriptive recipe for well-being.

How's Life?

The OECD's *How's Life?* publication is produced every two years. The last edition, in 2015, had a particular focus on how life is for children. It also investigated the relationship between volunteering and well-being, and looked at the sub-national trends about well-being.

Another wider communication tool is a specially designed and built website called the *Better Life Index*, which gives people a chance to rate what they think are the most important components of a good life. The results, from around 120,000 people who have agreed to share their data with the OECD, show that generally people want to be happy, healthy and wise. The highest scoring topics are health, life satisfaction and education, with safety and the work-life balance often close behind. Overall, every domain is important and no single domain is regularly rated as unimportant.

Where Has It Been Done Well?

There is a role for well-being data all the way through the policy process, Dr Exton said, from early stages of strategic development through to implementation and evaluation.

Laws have been passed in both France and Italy mandating that whenever a budget is prepared, policy-makers must assess their plans against a list of indicators, often with a strong focus on well-being.

In New Zealand, the treasury has developed its own framework against which it assesses how any policy ideas might benefit people.

The OECD has also been working with the Slovenian government to build a national development strategy based on well-being and sustainable development to establish national priorities for Slovenia in 2050.

It's Harder Than It Looks

Notwithstanding these examples, a move this significant carries a lot of challenges, and it is a case of evolution, not revolution, conceded Dr Exton.

The OECD is working hard on building capacity to make sure that national statistical bodies are producing the

right statistics and providing them to policy-makers.

Existing knowledge of how different types of policies will impact on well-being is still very limited. It is complicated when working with 'ministerial silos' to get them lined up against a coherent vision of well-being.

"The OECD is trying to measure what matters to people, and whether they realise it or not governments are making choices every day that affect people's well-being," Dr Exton added. "From our perspective, it's really worth knowing whether the impact you are having on well-being is good or bad."

11 FACTORS THAT MAKE A GOOD LIFE

1. Housing
2. Income
3. Jobs
4. Community
5. Education
6. Environment
7. Civic engagement
8. Health
9. Life satisfaction
10. Safety
11. Work-life balance



**Dr Rodrigo Márquez**

Coordinator of the Human Development Report for the United Nations Development Programme in Chile

Building Capabilities For Happiness: Chilean Experience

// Capabilities are an actual freedom to do something, not just a formal freedom

//

Public policies alone cannot directly affect well-being, but they can be used to create an environment for people to be happy. Dr Rodrigo Márquez argued that governments need to promote 'capabilities' – the opportunity or freedom to do something – to improve well-being.

Society's Role In Achieving Happiness

Dr Márquez's aim is to set happiness as a development goal for Chile. A leading researcher of happiness and human development, he told the Summit that happiness is not something that can be measured easily or achieved overnight. Many self-help books say happiness is a matter of choice, but, he asserted, this is a theory geared towards isolated individuals and does not work for society at large or public policy.

When researchers asked Chilean residents if they felt they could be happy no matter the circumstances, 80% of respondents answered 'yes'. When asked if they felt it was the duty of the government to make them happy, the majority answered 'no', suggesting that they did not believe social context was important for achieving happiness. Evidence shows, however, that society plays a crucial role in life satisfaction. To illustrate this point, Dr Márquez described how social constraints, which are constructed by society, make life satisfaction unequal between groups.

Subjective Well-being

The problem with the debate surrounding happiness is that there is often an underlying suspicion, said Dr Márquez. When happiness, development and public policy are discussed with people who do not believe happiness is a societal issue, they tend to think it is being used to distract them from the real challenges at hand. Governments need to change their focus in order to convince sceptics, Dr Márquez posited. He offered a simple solution: instead of using the term 'happiness', governments should call it 'subjective well-being'.

Subjective well-being is the evaluation that people make of themselves, but also how they assess the society in which they live. This means that when people determine their level of happiness or well-being they do so by critiquing their own lives. Measuring well-being in this way is subjective because it is based purely on how people view themselves.

"Subjectivity matters. Life satisfaction, what people fear, think, feel and dream are important even if those things aren't necessarily real," Dr Márquez said.

Class Divide

Dr Márquez explained that contentment and life satisfaction have a significant impact on which members of society are most favoured by public policy, and claimed they had an influence on the division of society based on class. The middle classes, he pointed out, are mostly satisfied with their own lives, but overall are discontented with society. They are also the most likely to demonstrate and protest their discontent.



Conversely, a third of the population feels just the opposite – unsatisfied yet content. These people tend to blame themselves for their situation, he said. They are the most vulnerable, but they do not blame society or believe it can help them. If this group was more critical of their community and prone to protest like the middle classes, then perhaps public policy would change to their advantage, Dr Márquez suggested.

Public Policies & Capabilities

Public policies alone will not directly affect well-being, but they can indirectly promote actionable ideas, choices and freedoms, which Dr Márquez called 'capabilities', to create an environment that nurtures happiness.

He was keen to point out "capabilities are an actual freedom to do something, not just a formal freedom to do something". The choice and freedom to do or have something should increase one's well-being and overall happiness. Merely creating opportunities for show, however, is not enough. Public policies giving people access to relevant opportunities which will have a positive impact on their lives must be enacted, he stressed.

Innovation

Innovation is required for governments to create public policies for subjective well-being. When people innovate, they need to be able to make mistakes, accept those mistakes and learn from them, said Dr Márquez. The problem right now is that society and the public policy evaluation system rarely allow for missteps. They do not want trial and error; they want to see in advance that a policy is sound and workable.

Appropriation Factor

Dr Márquez concluded by advising governments to create new opportunities for the public good that both make sense and, more importantly, benefit people. "When you evaluate an opportunity, as well as asking who is it for, you have to ensure there is fair and equal access to the opportunity," Dr Márquez said.

He cautioned governments against creating opportunities and barriers at the same time. For example, Dr Márquez explained, if work opportunities are created, authorities must also be sure people are skilled for that particular type of work or that they are given access to the necessary training. Otherwise, no one benefits and it isn't an opportunity.

6 SOCIAL FACTORS THAT AFFECT WELL-BEING

1. Human security
2. Crime
3. Protection of pensions
4. Protection in case of unemployment
5. Respect
6. Social inequality

**Gwang-Jo Kim**

Director of the United Nations Educational, Scientific & Cultural Organization in Bangkok

Happy Schools Framework

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We should look beyond cognitive dimensions and address the issues of well-being and happiness

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Gwang-Jo Kim, an expert on the education systems of Asia and the Pacific and director of the United Nations Educational, Social & Cultural Organization's (UNESCO) Bangkok office, is bursting with ideas when it comes to promoting happiness in schools. His Happy Schools Framework has been developed to give children the best start in life and a better chance of maintaining a happy lifestyle.

With most people spending 10% of their lives pursuing education, Kim, who played a key role in an education reform project to restructure the entire Korean educational system, believes all schools should provide a pleasant experience for youngsters while they are there.

What Makes A School Happy?

In 2014, a project was launched throughout Asia and the Pacific to measure the levels of happiness in schools. Its initial findings revealed that many possessed very low happiness levels – a key finding which led to the birth of the Happy Schools Framework. Kim saw that happiness was nurtured in schools through friendships and relationships, which were developed through education and learning.

A survey sent out to schools asked them to list factors which made them a happy place and aspects that they disliked the most about the school. These findings would ultimately form the framework to develop Kim's 'happy schools'. The survey found the best aspects of a school consisted of a friendly learning environment, positive teachers and having freedom to learn, while the factors making schools an unhappy place included bullies, an unsafe environment and excessive amounts of homework.

The survey was used by policy-makers to produce ways in which schools could blossom into positive, friendly and happy environments for young people. Leaders developed three dimensions to better

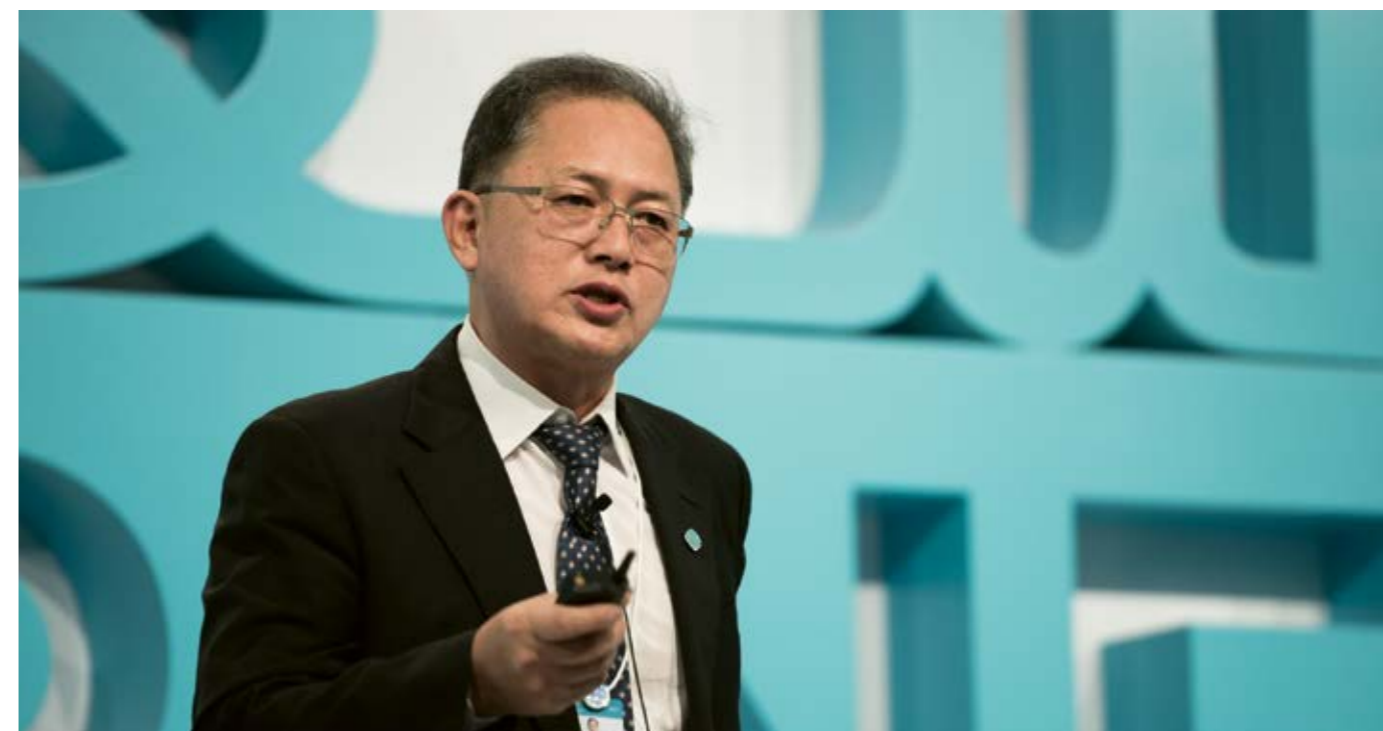
inform those whose responsibility it was to turn around the fortunes of schools: people, process and place.

The people dimension focuses on the relationships and friendships which are built in schools, as well as the positive attributes teachers should display. Process looks at how much and how often homework is given, and place is concerned with creating a positive environment within the school, as well as teaching respect for the environment at large.

What Does A Happy School Look Like?

Kim, who was the assistant to former South Korean President Kim Young-sam in education and social policy, suggested that an average happy school in Asia and the Pacific is:

- **'Warming, comforting and safe'**
- **A place where learners build strong relationships and are free to learn with others**
- **A place where teachers and school staff actively engage with learners, encourage collaboration and care for one another**



- **A place where the parents of children at the school trust and respect that their children's well-being is the school's chief concern**

Kim thinks this is not especially difficult to achieve, but many schools still are not doing it. According to Kim, too many leaders are concerned about the first two of UNESCO's four pillars of learning – learning to know and learning to do – and do not focus on the remaining two – learning to be and learning to live together – which have a greater impact on happiness. Too much emphasis is being put on exams which only serves to create more stress for young students.

What Are Other Countries Doing About Happiness In Education?

On a global level, leaders are becoming concerned about happiness, with nations across Asia and the Pacific considering a range of options to bring a positive atmosphere into schools. This comes after countries reported seeing a rise in suicide levels because of the stress placed on students to perform better in exams.

Kim, a South Korean national, explained that his home country has launched its 'Happy Education for All, Creative Talent Shapes the Future' project to address the level of depression in its public education system after suicide rates became some of the highest in the world.

Japan also established a commission on well-being in 2012, and Singapore, one of the best countries when it comes to international assessment, has a social and emotional learning initiative.

Kim's Conclusions

For Kim, happiness and the quality of education are inseparable, and work must be done to bring the two together. To live in a peaceful world, he believes we need to emphasise the influence of collaboration and cooperation equally and work to understand others better. "We should look beyond cognitive dimension and address the issue of well-being and happiness. To bring in peace and security we should embark on happy schools," he concluded.

3 DIMENSIONS OF HAPPY SCHOOLS**1. People**

This includes friendships and relationships in school, the positive attributes teachers should display, respect for diversity, positive practices and teacher competition.

2. Process

Process refers to how often and how much homework the students are assigned. Schools should assign homework that is 'reasonable and fair' and teachers are urged to rethink how they assign work to be done outside of the classroom.

3. Place

Schools should provide an environment free of bullying, and should pioneer leadership techniques and eco-friendly or green learning to give students a better grasp of factors which could potentially harm the planet.

Global Dialogue For Happiness

The Global Dialogue For Happiness, held the day before the Summit's main programme commenced, invited top international thinkers, decision-makers, government leaders, academics and experts to discuss the main themes impacting happiness and well-being in the world today, including the role of government and public policy in creating a happy and positive society.



**Mattia Romani**

Managing Director for Economics, Policy & Governance of the European Bank for Reconstruction & Development

Development Through Closing The **Happiness Gap**

// Education and job satisfaction are absolutely crucial elements of happiness and life satisfaction in general

Mattia Romani, Managing Director for Economics, Policy & Governance at the European Bank for Reconstruction & Development (EBRD), shared his insights on what has helped transform the lives of nations which have faced turmoil and transition. Among the most surprising was that while money cannot buy happiness, it can certainly help.

Romani, who is also the senior economist and senior visiting fellow at the Grantham Research Institute at the London School of Economics, which invests in economic growth, reported some surprising findings from his research into fostering happiness.

He revealed that the EBRD's work in former Soviet countries showed babies born during the fall of the union ended up 1cm to 2cm shorter than other generations. People who are richer are, in general, happier and if a person's

mother is well educated, it is likely they will experience more satisfaction in life.

Since the fall of the Berlin Wall and the collapse of the former Soviet Union, the EBRD has looked closely at how people in regions once ruled by the Soviet Union fared when it comes to being happy.

Set up in the early 1990s, the EBRD served the people of Central and Eastern Europe while based in London. More recently, it has moved into North Africa and the Middle East, and between 2006 and 2016 it collected data for its *Life in Transition* survey, which monitored the conditions for life satisfaction. Romani explained how the study, which involved 51,000 households in 31 countries, has found a number of correlations between satisfaction and everyday life.

A Transformation Like No Other

A key part of a development bank's role is to look into how the fortunes of its clients have changed, explained Romani, and the *Life in Transition* survey, executed over a 10 years, is the longest life-satisfaction survey in the world. Researchers began by examining how people have developed since the collapse of the former Soviet Union.

"These regions went through a fairly deep shock during the period of the collapse of the former Soviet Union," Romani said. "One way to look at this is people's height."

One of the findings of the report was that a person's height is correlated with their quality of life. People who were born during the transition period were 1cm to 2cm shorter than other generations. Romani cites malnutrition and the fact they were in a 'deep and traumatic period' as reasons for the difference in stature.

What Makes People Happy?

Romani may not have all the answers when it comes to happiness, but the *Life in Transition* survey claims money is an important answer. "Money may not make you happy, but it sure helps," according to Romani. The survey's findings prove this, showing that people who were richer were happier. One of the only exceptions in this analysis were the residents of Italy, whose incomes have not shown the same progression as other countries on the continent.

The survey also found a strong link between life satisfaction and job satisfaction. If a person enjoys their

work, they are likely to be happier compared to someone who cannot wait to leave the office at 5pm. Romani mused: "Job satisfaction has gone up so life satisfaction has gone up, but it continues where job satisfaction has gone down, life satisfaction goes down."

Being better educated is also likely to make someone more fulfilled in life. Not only that, but another interesting finding was that if a person's mother was educated, they were also more likely to feel more satisfied.

If education is not met by challenge in the workplace the effect is reduced. Being overqualified for a job was shown to be demoralising and would ultimately lead to deterioration in happiness.

"It is crucial that where job satisfaction is concerned we work around the issue of overqualification for jobs because that brings satisfaction right down." One of EBRD's initiatives to combat this includes training courses to prepare its clients in the Middle East for the workplace.

How Have Fortunes Changed?

Romani demonstrated hope for the future for countries in turmoil, as he described how the fortunes of former Soviet countries were changing for the better. They have succeeded in breaking down the barriers put in front of them with the fall of the Berlin Wall, coming through the other side stronger, he said, and their prospects are promising as they match those of other European nations.

"The pain of the structural reforms our countries have gone through in the early transition years are now fully overcome," concluded Romani.

"The level of happiness and satisfaction with life in our countries of operation has converged to average levels in Western Europe."

He admitted, however, that this convergence was not only driven by the increase in the level of satisfaction in these countries, but also a deterioration of happiness levels among Western Europeans.

Georgia: A Success Story

Romani recounted the story of Georgia, which had once experienced deep corruption in its public services, affecting people's lives and happiness. The former Soviet state has now been transformed after increasing its transparency and accountability over the last 10 years. The country has 'got its act together' and is now a shining example of a nation that has improved the quality of its public services to help people.

THE SURVEY'S KEY FINDINGS

- **Babies born during the fall of the former Soviet Union were 1cm to 2cm shorter than other generations due to malnutrition**
- **People who are richer are happier**
- **There is a strong link between life satisfaction and job satisfaction**
- **People with well-educated mothers tend to be more satisfied with life**
- **Being better educated is also likely to make someone more fulfilled in life**



**Prof Meike Bartels**

Professor of Genetics & Well-being at Vrije University Amsterdam

Do You Have the Happiness Gene?

// If you want to make people happier you need to realise that everyone is different

//

Happiness is something we all want in our lives and some people are happier than others. That much is a fact of life. But are some people born happier? Is it even ingrained in them from birth?

Professor Meike Bartels, a university research chair and Professor of Genetics & Well-being at the Department of Biological Psychology Studies at Vrije University in the Netherlands, studies these questions at her base in Amsterdam in a bid to work out what makes people smile inside and out.

Until recently, she said, studies have focused on a select few groups, such as adults with children, compared to adults without children, or people with a high income, compared to those on a low income. Prof Bartels said these groups imparted little insight as a child, for example, means something different to everyone. It was time for a change in the way of thinking, she said, looking at standard variables which were likely to change, like the environment.

How Can Twins Make A Difference?

Twins have been ever-present in the study of happiness. By researching the happiness of a pair, scientists could make quick conclusions as to what determines the happiness of two genetically similar people.

The focus of this kind of study is also now changing to compare the overlap in the happiness of identical twins to the overlap in non-identical twins.

"Identical twins are each other's clones, they are genetically identical and if they differ in their happiness levels, it must come from environmental influences," theorised Prof Bartels. "Non-identical twins, on the other hand, only have 50% of the same genetic material, so if they differ it could be because of genetic differences."

Studies have found that 36% of differences in happiness could be accounted for by genetic differences.

It Is In Your DNA

Studies have recently started looking at much larger groups of people to compare happiness and try to explain how genetics and the environment can make a difference to a person's well-being.

Groundbreaking research carried out by Prof Bartels found that chromosomes – the genetic material inside the human body – are linked to happiness.

The study looked into the happiness of 300,000 people from around the world to try to answer the question: "Do people who have the same level of happiness have similar DNA?"

By taking swabs from the mouths of volunteers and comparing their genetic data, scientists discovered they had identical chromosomes in their bodies.

The human body is made up of 23 pairs of chromosomes, and scientists found numbers five and 20 were linked to happiness – therefore discovering a 'happiness gene'.

Can Everyone Be Happy?

People can be born with the happiness gene, according to Prof Bartels, but it is no guarantee of a happy life as the environment still plays a huge part in how truly happy a person can be.

The same can be said for a person born without the 'happiness gene' as researchers believe anyone can be happy. Someone born 'unhappy' can still ultimately have a happy life because of the impact of the environment around them.

"Just because something is genetic, doesn't mean it cannot change. It only means it is harder to change for some people than for others," said Prof Bartels.

"If you are born with a genetic pre-disposition that gives you a high level of happiness, it is easier to be happy and stay happy. If you are born with a genetic pre-disposition to be on a low level of happiness, then you can still be happy but you have to work for it."

Everyone Is Different

Prof Bartels believes that for governments to change levels of happiness, they must first recognise that everyone is different. This means everyone requires a different approach

because people react differently to contrasting approaches, Prof Bartels explained, using the example of exercise.

An identical workout plan would not have an identical impact on everyone, as people want to do things differently, she said. Preferences may include exercising inside compared to outside, or taking a day or a week to complete the plan.

Prof Bartels concluded: "We don't need to develop one intervention, we need to develop many interventions and ask people what they would like to do. If we do so we might be able to change happiness."

KEY POINTS

- **A breakthrough in the science of happiness is taking shape**
- **The environment plays a big role in how happy we are**
- **Genetics matters too, but can be overcome**
- **Different people need different approaches**



**Prof Darrin McMahon**

Professor of History at Dartmouth College

A Brief History Of Happiness

// Happiness and progress do not always go hand in hand //

Human beings' understanding and expectations of happiness have changed over the centuries, according to history professor Darrin McMahon.

Prof McMahon, who teaches at Dartmouth College in New Hampshire, United States, described the findings of his research into how happiness has evolved from something once believed to be a luxury only the fortunate could possess, into an emotion most people expect to have.

Early human ancestors were not miserable or ecstatic, assessed Prof McMahon, who also authored the book *Happiness: A History*. He rated them at six or seven out of 10 on a scale of happiness. Prof McMahon explained that it was better for early man to be "a little anxious, fearful and hungry" so that they would continue to be on the alert for things that would threaten their lives and safety.

"To be too happy for too long is not optimal from an evolutionary standpoint," he expanded, adding that the instinct to survive and progress would win. "Anxiety, anger and fear all have their purposes, but we also seem to be wired to adapt to pleasures quickly and always want more."

Agricultural Revolution

Hunter-gatherers enjoyed, in general, a good deal of positive emotions, Prof McMahon continued. While they did not have air conditioning or iPhones, and were at risk of fatal accidents or being eaten by lions, they were happier than the generations that succeeded them.

Prof McMahon put this down to the fact that although the agricultural revolution was a time of ecological advancement, it also set in motion a series of developments intended to work against human happiness. Ultimately, it led to more people wanting for more. This resulted in the private ownership of property and poverty, which in turn brought about hierarchies with limited human freedom and slavery.

As they became settled and domesticated, populations were far more susceptible to disease because of the lack of variety in their diets, which did not contain as much meat or nutrients as the diet of hunter-gatherers.

"While the agricultural revolution meant greater abundance for some, it was a step back for the majority of men and women," said Prof McMahon.

Religious Revolution

It was around the dawn of the first millennium in 1000BC when the understanding of happiness began to change. People began to challenge the idea that happiness was not under their control. This change in mindset coincided with the world's first traditions, religions and teachings during what Prof McMahon called the 'Second Revolution of Human Happiness'. Societies wrestled with the question of human suffering and started looking into how human beings could achieve flourishing lives.



The teachings and religions of the time demonstrated many similarities and formed the basis for a new generation's understanding of happiness, with common themes including the idea that giving to others is the best way to give to oneself, and the promotion of friendship, fellowship and love.

This was the status quo around the world until the early 18th century, Prof McMahon continued, when there was a 'Third Revolution of Human Happiness' which challenged these pillars.

The Third Revolution

Prof McMahon believes that humans' understanding of happiness began to change in the 1700s due to a shift in philosophies and religious perceptions, which placed less of an emphasis on damnation and more focus on the rise of commercial society. As the 18th century began, people started to view happiness as something they expected to happen naturally, and assumed that human beings ought to be happy.

The 18th century also saw a rise in the number of people actively starting to pursue happiness as they believed they had the right to obtain it. This revolution resulted in a happy many replacing the happy few but, said Prof McMahon, this came at a great cost. Prof McMahon reminded the government leaders at the Summit's Global Dialogue for Happiness that they had also come together in the pursuit of mass happiness, and carried a warning in his message.

"It was an appealing message – as it still is – and so it spread, slowly at first beyond the privileged circles of the West to include ever-wider groups of the world's citizens. Socialist, Stalinist, capitalist – the message was delivered in many different forms and left varying degrees of wreckage in its wake," he said. "A great deal of suffering has been expended in the effort to bring happiness to the world and I think those of us who do the same will do well to recall that fact from time to time."

Despite this stark warning, Prof McMahon revealed that he was heartened by the work being done across the world, which could lead to a 'Fourth Revolution of Human Happiness'. He said every government's challenge is not to force citizens to be happy, but to equip them with the support and resources they need to achieve happiness. Based on lessons historians have extracted from the past, he said that gratitude, hope, fellowship and forgiveness, have proved most effective in the pursuit of human happiness.

KEY POINTS

- **People's understanding and expectations of happiness has changed over the centuries**
- **Happiness is now understood as a natural part of life and something to which everyone has a right**
- **Governments must remember that a great deal of suffering has been spread in the effort to bring happiness to the world**
- **The challenge for governments is to equip citizens with the support and resources needed to achieve happiness**


Matthew Killingsworth

Founder of the Track Your Happiness App

Track Your Happiness: When & What?

// People should stay in the present because that's where they find happiness

//

Matthew Killingsworth, a scientist who studies the nature and cause of human happiness, revealed that people are happiest when interacting with friends and loved ones.

Killingsworth began collecting happiness data in 2009 using a survey which randomly sends questions to participants a few times each day, asking them what they are doing at that moment and how it makes them feel. He observed that there are two primary indicators which he can use to predict a person's happiness: what they are doing and what they are thinking.

"It seems like there are two largely, but not entirely, independent channels that are affecting our happiness," he said. "The first is an internal channel affecting our thoughts and the second is an external channel affecting everything else we think about in the world."

Through this research, he found people are most unhappy when at work. Interestingly, his findings also showed that we are less happy when our minds wander from the present moment – even if we are thinking about something more pleasant.

On the other hand, he said, happiness spikes when we are engaging with other people. He also pointed out that happiness levels are about seven times higher when these interactions are face to face instead of on mobile phones or video chats, a finding which has important implications for governments focused on increasing their citizens' well-being.

When Are People Unhappy?

Some of the most interesting results, Killingsworth found, were in regard to the things that make people unhappy.

The survey revealed that respondents were unhappiest while at work. People spend most of their adult lives at work, Killingsworth pointed out, which means they are unhappy for most of their lives if they have a job or career they do not enjoy.

"Happiness is at the bottom when they are working," Killingsworth said. "They are spending the most time doing the thing that makes them the least happy."

Children also make people – specifically parents – unhappy, as does the thought of exercise. Respondents who work out frequently, however, reported that in hindsight they did find some enjoyment in it and believe it to be a worthwhile endeavour.

"People are quite happy when they are interacting with their friends," Killingsworth added, "and they are significantly less happy when they are interacting with their significant other, which is on the same level of happiness as interacting with other relatives."

The Wandering Mind

The human body comes equipped with an amazing mind capable of vivid thoughts and imaginations. People allow their mind to wander when they are unhappy with what is going on at the current moment. For most people, this is most of the time, Killingsworth asserted.

Interestingly, letting one's mind wander actually makes them less happy, he observed, even if they are daydreaming about doing something or being somewhere more pleasant.

"People should stay in the present because that's where they find happiness," he explained. "When I look across the spectrum of human status and look at the bottom of the list to see what people enjoy the least, people are significantly happy when they are focused on tasks compared to when their minds are wandering somewhere else."

Happiness & Social Interaction

Killingsworth's constant probing of his survey participants revealed the thing that makes people the happiest is interaction with others. People are more likely to find happiness if they make the effort to socialise regularly, he said.

Meeting people face to face rather than via video or text messaging gives happiness an extra kick in the right direction, Killingsworth concluded.

"Happiness is seven times as large when you interact in person rather than over technology," he explained, admitting: "Maybe in the future when we have amazing virtual reality we won't be able to tell the difference, but for now it's not a very good way to get your social return on happiness."

3 THINGS THAT MAKE PEOPLE UNHAPPY

1. Being at work
2. Allowing the mind to wander from the present moment
3. Thinking about exercise

This final thought has some important implications for governments which are increasingly moving towards automation, he speculated. While adapting smart technologies may be the way forward, governments should not ignore the effect these might have on their citizens' overall happiness.

INTERACTIONS RANKED BY HOW MUCH THEY INCREASE HAPPINESS

1. Friends
2. A significant other or relative
3. Children or strangers
4. Customers one serves or students they teach
5. Parents
6. Co-workers
7. Boss

**Renuka Jagtiani**

Vice Chairperson of Landmark Group

The Private Sector's Role In **Promoting Happiness**

// In this connected world, we believe that change can only come through ideas, education, innovation, tolerance and sharing

//

The private sector has a pivotal role to play in supporting and promoting the United Arab Emirates (UAE) Government's efforts to spread happiness and positivity, according to Renuka Jagtiani, the Vice Chairperson of the Dubai-based Landmark Group, one of the Middle East's largest retail firms. She also sent a strong take-home message to business leaders – happiness is the key to success.

Working In Partnership

Jagtiani stressed the importance of focusing on ideas, education, innovation, tolerance and sharing to build value, positivity and happiness in the workplace. She recognised that business leaders in the region share the UAE's vision to create an environment of growth and happiness, and she focused on the fact that there is no success without happiness.

"Success and happiness are so interlinked, and it's when governments and the private sector come together that this can be even more powerful," Jagtiani explained.

Positive Change

Businesses in the private sector should play an active role in making positive changes and improving the well-being of the communities and societies within which they operate, something to which the group is staunchly committed.

Jagtiani shared some examples of Landmark Group's dedication to social responsibility:

- **A partnership with Dubai Chamber of Commerce & Industry to launch green initiatives in its warehouses and offices**
- **Employment of more than 3,600 women in Saudi Arabia as part of a commitment to grow the country's female workforce**
- **In partnership with Dubai Sports Council, Dubai Health Authority and Al Jalila Foundation, the group has launched a diabetes programme to raise awareness of the disease and raise funds to support diabetes research**



"We are committed to building a better, happier tomorrow in whatever we do. While our journey has begun, we still have a very long way to go," stressed Jagtiani.

People First

As a leader in a successful retail business, Jagtiani has helped to steer the group's journey, with more than 2,200 stores and 57 brands being launched across 19 countries in the Arabian Gulf, North Africa, Levant, India and Pakistan. Jagtiani, who is the wife of Landmark Group's founder and chairman, Micky Jagtiani, explained the driving force behind their success.

"When my husband started this business, people and the business went hand in hand – and we have always looked for people who have passion and commitment, and given them ownership. That is what has made us what we are today," she said.

Statement Of Purpose

Landmark Group's portfolio spans retail, hospitality and leisure, healthcare and mall management. Since the beginning, its statement of purpose has been 'creating exceptional value for the lives we touch'.

Jagtiani said that this is key to ensuring the happiness of both customers and employees. Landmark Group understands the customer's needs and it has the flexibility to meet them, she explained. It is also taking ownership of its employees' growth and happiness, and she advised other private sector employers to consider doing the same.

A Global Dialogue For Happiness

Having been part of the Dubai journey for the past 25 years, Jagtiani said that the Landmark Group welcomes the Global Dialogue for Happiness. She thanked His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, for having the vision, passion and leadership to shape the UAE's happiness agenda and create a global benchmark for nations around the world.

Jagtiani paid tribute to Her Excellency Ohood bint Khalfan Al Roumi, the UAE's Minister of State for Happiness, for "bravely taking forward the vision of Sheikh Mohammed to build an environment of positivity". She also acknowledged the valuable insights into building a happy country which were presented by the Prime Minister of Bhutan, Tshering Tobgay.

"Today has been an education for all of us," Jagtiani told the audience. "It feels truly special to be part of this journey."

JAGTIANI'S ADVICE FOR THE PRIVATE SECTOR

- **Happiness is the key to success**
- **The private sector plays a vital role in promoting happiness**
- **Businesses should be committed to enacting positive change and improving the well-being of the communities and societies within which they operate**
- **Employers must take ownership of employees' growth and happiness**



Prof Roberta Golinkoff (1, Second Right)
Unidel H Rodney Sharp Chair in the School of Education at the University of Delaware

Dr Hafez Ghanem (3, Centre)
Vice President of the World Bank for the Middle East & North Africa

Javier Arguello (2)
Founder & Executive Director of COGx

Noah Samara (1, First Right)
CEO & Chairman of Yazmi

Rebecca Taber (4)
Head of Government Partnerships for Coursera

Kim Ghattas (3, Left)
International Affairs Correspondent for BBC, Moderator

Shaping The Future: Cognitive Science & Innovation In Education

Education must change to equip children with 21st century skills, agreed a panel of experts in cognitive science and technology, who presented solutions to address gaps in the world's education systems.

Professor Roberta Golinkoff, a multi-award winning psychologist, and Javier Arguello, a specialist in helping people improve their mental skills, discussed developments in cognitive science that encourage governments to rethink existing education models.

Noah Samara and Rebecca Taber described their companies' innovative initiatives, using technology to address challenges related to access to and quality of education. Dr Hafez Ghanem also outlined a World Bank initiative to improve provision globally.

Education For Competitiveness

Prior to the presentations, Dr Ghanem outlined a World Bank initiative, launched in partnership with the Islamic Development Bank, that aims to improve provision globally. Its motivation is the belief that, in Dr Ghanem's words, "improving education is important for political and social stability".

This scheme has started in the Middle East and North Africa but has global potential. It focuses on raising the quality of education in four areas:

1. **Early childhood development**
2. **Basic skills such as literacy and numeracy, especially in early years**
3. **Changing the nature of teaching, in particular to include 'soft skills' for the 21st century**
4. **Helping people enter the job market and prepare for new technologies**

How Cognitive Science Can Shape Education Models

Prof Golinkoff, whose book *Becoming Brilliant: What Science Tells Us About Raising Successful Children* is a leading reference in this area, had four main findings to impart to governments. Innovation, she said, is key to all of these.

1. **The factors which constitute success must be redefined, moving beyond the beliefs that have historically shaped education**
2. **Technology helps, but children – especially young children – learn in the nexus of social interaction, and new models cannot neglect this**
3. **Students need skills to cope with information management. Nowadays, people are exposed to the equivalent of 177 newspapers a day, and the amount of information in the world doubles every 2.5 years**
4. **Models should be built around six core skills: collaboration, communication, content, critical thinking, creative innovation and confidence. These are relevant for everyone, not just children**



Arguello argued that the question, 'What is education for?', is more pressing than ever. Blue-collar jobs are disappearing and white-collar jobs are elusive. He also had four main recommendations from the work of his COGx organisation:

1. **Cognition isn't homogeneous**
The human brain is wired to learn, but everyone learns differently.
2. **Content isn't king**
Teaching content is part of the story, but not a purpose in itself. In particular, it needs to be accompanied by 21st century skills.
3. **Technology isn't a panacea**
It can't replace teachers, and its use should be targeted. It is most beneficial once students have become self-directed learners.
4. **Teachers are educators**
They should 'unleash the power of the mind' and not just be conveyors of content.

Yazmi: Bringing Education To All

The global community has set a target of education for all by 2030. Samara, whose company has taken up this cause, pointed out there is still a way to go. Currently, 115 million children are not enrolled in an education system.

This challenge was the motivation for his Yazmi solution. This uses a network of satellites to beam educational material to remote areas in Africa, the Middle East and Asia. There, it is received on solar-powered tables that are supported by a server, enabling millions of students to receive schooling even without the internet or electricity.

Yazmi has already been shown to have a positive effect on learning outcomes. The organisation also works closely with governments, so the content being disseminated is either straight from them, or has been approved by them. The scheme is very much a personal mission of Samara's. He described how he visited 127 countries to request the relevant satellite frequencies and personally approached investors to raise the \$2 billion required to develop the programme.

Coursera: Raising Educational Quality

The world's largest online learning platform, Coursera has 32 million students globally. It isn't just a private sector company, but it also works with governments to help close skills gaps. Shortly before the Summit, it launched 'Coursera for Governments' as the next step towards this goal. The initiative is designed to answer three questions:

1. **What skills do people need?**
2. **How are they going to learn those skills?**
3. **How will success be measured, especially when completing a course is just the start?**

In particular, the scheme aims to be specific about '21st century skills', which Taber, Coursera's Head of Government Partnerships, suggested are often talked about vaguely, without practical precision. For example, Coursera is assisting data scientists in Singapore and programmers in Bangladesh. Some 80% of its students go on to directly apply their acquired skills in their jobs. It was appropriate, Taber concluded, that the world's most popular online course is 'Learning How to Learn'.

**The Hon Loretta Preska (1)**

United States District Judge for the Southern District of New York

Prof Gillian Hadfield (2)

Richard L & Antoinette Schamoi Kirtland Professor of Law at the University of Southern California

Dr Sam Muller (3)

Founding Director & CEO of the Hague Institute for the Internationalisation of Law

Justice Shamlan Al Sawalehi (4, First Left)

Court of First Instance Judge for the Dubai International Financial Centre Courts, Moderator

Bringing Order To The Fourth Industrial Revolution

In Collaboration With Dubai International Financial Centre

The fourth industrial revolution may be bringing the world major innovations, but those changes are not yet finding their way into the legal industries. All three panellists – New York senior district judge the Honourable Loretta Preska, United States (US) legal expert Professor Gillian Hadfield, and the Netherlands-based international lawyer Dr Sam Muller – agreed that technological innovations were not yet benefitting the law.

Judge Preska said: "There is somewhat of a revolution, but I don't think the legal industry is benefitting from it." Prof Hadfield affirmed that view and told the panel's moderator, Justice Shamlan Al Sawalehi, that as the law is a very insular world its lack of innovation often goes unnoticed. Judge Preska, however, said that enormous benefits could be gained from technology, but things like e-discovery had become 'the bane of our existence'. Collecting and searching electronic correspondence makes litigation slower and more expensive. An electronic filing system could, on the other hand, serve as a huge benefit to justice if judges would agree to their decisions being publicly searchable, and if courts would make the

financial investment. For example, it could further justice in the case of someone trying to sue a well-known person. With paper filing, a judge could delay and never decide that case. With electronic filing, the complainant could find all the other cases from the same year, see they had all been decided, and then ask why their case was being treated differently.

Dr Muller, Founding Director and CEO of the Hague Institute for the Internationalisation of Law (HiiL), warned that the lack of innovation and engagement with technology means the law is not reaching those who need it. His organisation has research from a number of countries showing how people view the law. Their data shows that in countries from Uganda to Ukraine, Tunisia and the Netherlands, large numbers have serious problems with the legal system but do not take action because it would be too expensive or inaccessible, or because they did not have any confidence it would work.

It is also known that there are millions of small to medium enterprises (SMEs) all over the world without access to justice, he said, despite the fact that SMEs are the biggest employers on the planet. Procedures are too long, too complex, too expensive and unproductive. "It's not about having a justice system for the sake of a justice system," he emphasised. A legal system that does not deliver value for money harms both citizens and businesses.

The problems come, Dr Muller said, because law lacks innovation. "In the justice system there's a very low tolerance for failure and not a lot of diversity," he added. The iPhone was not invented solely by 'tech nerds', he said, but with the help of psychologists, anthropologists and normal people, showing just how important diversity is to change. Ministries of justice have a role to play in creating 'safe spaces' where people can innovate and fail without fear.

3

**Legal Innovations**

Dr Muller's organisation presents awards for legal innovation, and the winners of those prizes show what can be achieved by bringing change and technology into the legal system.

Examples have included a Kenyan prisoner training other prisoners as paralegals to both solve the country's pre-trial detention problem and give them employment once they leave prison. Elsewhere, a digital platform has been developed to let people arrange their own divorces – using a combination of technological and software knowledge and input from the fields of psychology and conflict resolution.

Regulating Innovation In Legal Systems

Turning to the issue of regulation in the future, Judge Preska spoke of two areas which need attention.

1. Neuroscience in evidence

The first is the use of neuroscience in civil and criminal evidence – in cases such as one where a person's sudden criminal behaviour is attributed to a large brain tumour. Questions are raised over how that kind of

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information should be used, she said. "Is everyone going to be scanned? Are people with abnormalities of the brain going to be studied and certain limitations put on them?" Answering this dilemma will require a truly interdisciplinary approach involving lawyers, doctors and sociologists, Judge Preska added.

2. Electronic collection of evidence

There are questions over how evidence can be collected electronically when statutes set in the 1980s have already been left behind by technology, and information can be kept on servers in different countries rendering it inaccessible to law enforcement and the justice system.

Rethinking Laws

With the fourth industrial revolution bringing artificial intelligence, robotics and things like driverless cars to the fore, Prof Hadfield said countries will need a comprehensive rethinking of how they create and enforce laws. Countries will need to get the intelligent people and investment dollars currently working on robotics and autonomous vehicles to

move over and create the regulatory systems needed around those technologies so that everyone can have confidence in them. She said: "Thinking 'do we just let them do it or should we restrict them' is just a misconception about the scale of the challenge we face creating social order."

Dr Muller added: "We need to think differently about how we are going to regulate the fourth industrial revolution because the traditional models won't always apply, and in fact I think they often won't apply."

KEY POINTS

- **The groundbreaking technologies developed in recent years have not yet made it into legal industries**
- **Legal systems could benefit greatly from incorporating new innovations**
- **How to regulate new technologies in legal systems will have to be explored**
- **Countries must rethink how laws are created and enforced in light of advances in artificial intelligence, robotics and automation**

**Ian Klaus** (1)

Former Senior Adviser for Global Cities at the United States Department of State

Christopher Schroeder (2)

Entrepreneur, Adviser & Investor in Interactive Technologies & Social Communications

Evan Burfield (3)

Co-founder & CEO of 1776

Cities For **Entrepreneurship**

In Collaboration With 1776

Smart cities attract smart people, companies and investment, and with a global vision and strong leadership brave enough to take some political risks, any city in the world can perform on the world stage when it comes to entrepreneurship.

Entrepreneurs & Cities

The future of cities can be improved by entrepreneurs, but the key is being able to attract them. Rather than thinking of a city simply as part of the country within which it is located, said American entrepreneur Evan Burfield, its citizens and leaders should think more widely about how the city can perform on the global stage.

Burfield cited Dubai as a city which, through bold leadership, careful investment and use of technology, is recognised around the world as an example of the smart cities of the future. Bringing together start-ups from around the world with projects like Smart Dubai, the city drives innovation that benefits residents, visitors, companies and governing bodies alike. This, the panellists agreed, was something cities around the world had the capability to emulate, if not the vision or funding.

Ian Klaus, former Senior Adviser for Global Cities at the United States (US) Department of State, said it was impossible to tackle global issues – including climate change and extremism – without first working to tackle them on a local level. In his time with the US State Department, he said he learnt that cities must see themselves as part of the world at large, and should act accordingly. This sometimes creates a challenge, as city leaders and representatives may not have the knowledge or confidence to act on a global level. The key, he said, is knowing who to engage with and how.

Christopher Schroeder, author of *Startup Rising: The Entrepreneurial Revolution Remaking the Middle East*, said Dubai has become 'this incredibly powerful place', and by implementing the United Arab Emirates' (UAE) first bankruptcy law, had given entrepreneurs the confidence to try new things in the region, with the knowledge that they would be protected even if the start-up fails. He said this was "an enormous statement around the world".

Innovation That Matters

Burfield said that when discussions began about smart cities, investment or entrepreneurs in cities, there were usually two threads to the conversation:

- 1. Those in the community who encourage innovation in how things get done, perhaps getting citizens involved**
- 2. Those who say cities need to attract the technical talent of entrepreneurs and create an 'entrepreneur ecosystem'**

By bringing these two threads together, Burfield said, it is possible to reinvent the way municipal business – including healthcare, education, transportation, energy, waste and other infrastructure – is carried out, improving the city and involving citizens on all levels.

He said municipal services often account for between 65% and 80% of all economic activity in a city, meaning the city leaders have direct influence over how problems are solved for up to 80% of the city. This was often considered, however, as a completely separate idea to how a city can attract entrepreneurs and innovation.



Burfield, who co-founded the start-up incubator 1776, said: "We have got to bring and smash these things together. The most direct way for cities to create and attract entrepreneurs is to actually change the way they do business first to ensure that all this innovation they are trying to drive in the way they do business is being driven by entrepreneurs."

In short, cities might not be able to solve their problems effectively by simply signing a contract with a major established company, and smaller, ambitious start-ups should be brought into the fold early, putting a call out to the best entrepreneurs from around the world to involve them from the start.

Leadership

Looking at Dubai and American cities like Columbus and Detroit, Burfield said their progress had come not just from national funding but from having leaders bold enough to change the way a city works. In doing this, the leaders promote innovative solutions to problems, while attracting talented people and companies to the city, encouraging further improvement in the future.

Speaking about 'celebrity mayors' who are not afraid to do things differently,

Klaus said: "I think it's impossible to do it without them, in part because political risk is required."

Schroeder agreed, adding co-authorship was 'phenomenally important', and that political leaders should be willing to incentivise and organise innovative working, but also to 'clean up the house', through regulation and legislation, both supporting and protecting cities, workers and citizens, and encouraging free movement of ideas, goods, services and capital.

Klaus also said cities need to think of themselves more like a player on a global stage which must project its appeal to the rest of the world to thrive.

Schroeder pointed out that when leaders 'give teeth' to ideas and innovation, it shows a confidence that draws similar innovators and entrepreneurs to the city, enabling incredible growth and vastly increasing potential for a region. Great technology companies help other technology companies rise up, creating more jobs and prosperity. It all begins by taking an idea seriously, even if that idea starts simply as encouraging creative thinking in scientific classrooms.

3 LESSONS FOR MUNICIPAL LEADERS

- 1. It is important to realise that cities are increasingly acting on a global stage, and representatives must be humble while mapping out their own global space**
- 2. The challenge of knowledge that comes from cities acting at this level is that municipal leaders and representatives do not necessarily have the confidence or knowledge to act on a global scale. Who to engage with must be considered, as well as how to engage**
- 3. While investment is being made locally, global financial challenges must also be acknowledged and cannot be ignored**



François Bourguignon (First Right)
Former Chief Economist & Senior Vice President of the World Bank

HE Jorge Quiroga (Second Right)
Former President of Bolivia

HE José Luis Rodríguez Zapatero (Second Left)
Former Prime Minister of Spain

Prof James Robinson (Third Right)
Dr Richard L Pearson Professor of Global Conflict Studies at the University of Chicago

Luis-Felipe López-Calva (First Left)
Co-director of the *World Development Report 2017: Governance & the Law* at the World Bank

Kim Ghattas (Third Left)
International Affairs Correspondent for BBC, Moderator

Governance & The Law

In Collaboration With The World Bank

Good policies fail when best practice is not followed, or there is too little capacity or political will to see them succeed.

A panel moderated by the BBC's Kim Ghattas discussed the World Bank's *World Development Report 2017: Governance & the Law* and concluded that long-term objectives, support, coordination and trust from parties willing to cooperate for the public good are required for policy-making to be successful.

The Report

Luis-Felipe López-Calva, the report's co-director, began with an overview of the 2017 report, which investigated why ineffective policies persist, potentially good policies are not adopted, and sometimes suboptimal solutions produce good results.

Policy failure, he said, was usually due to best practice not being followed, not enough support or capacity being given to the policy, or the lack of political will to see it succeed. On the other hand, effective policies which had the capacity to commit to long-term objectives worked when there was coordination and trust that announced

policies would actually be implemented, and people were willing to cooperate for the public good.

Effective policies often fail due to manifestations of power from stakeholders, according to the World Bank's report. These might include the exclusion of certain groups from decision-making, opposition from those who benefit from the status quo, and lack of accountability between citizens and government.

Change is possible, said López-Calva, who is also the associate editor of the *Journal of Human Development and Capabilities*, by reshaping preferences and beliefs, incentives, and by making the policy arena more contestable.

Advocating Change

His Excellency José Luis Rodríguez Zapatero, former Prime Minister of Spain, spoke about the changes in worldwide politics, the rise of populism in the United Kingdom (UK) and the United States (US), and the need for tolerance and participation by the public to elevate a global ideology rather than retreating into nationalism and isolation.

His Excellency Jorge Quiroga, President of Bolivia from 2001 to 2002, said the report spoke of the need for strong institutions to keep a check on governance.

"Governance law, institutions, rule of law, state actors and non-state actors working together for a common goal under practices that have been developed over time is what we all want for development that's pro-growth and equality, and the reverse of that is populism. I think that's why the report is timely," Quiroga asserted.

An economist and political scientist by training, Professor James Robinson said the World Bank "does a terrible job at self-promotion", and does not seek recognition for the quality work it carries out. He highlighted the organisation's refusal to comply with the views of some economists that "poor countries are poor just because they haven't got the right ideas from the right economists and just need to come up with some clever ideas".



Prof Robinson pointed out: "If you've ever been to a poor country, you know there's just hundreds of really basic things that would generate huge increases in productivity and welfare in society, but they just don't happen."

The World Bank's report, he said, went some way to explaining why these changes did not happen, and what needed to be done so that they could be realised.

Combatting Inequality

Former World Bank Chief Economist, François Bourguignon, said globalisation had reduced inequality over the last 30 years to a large extent, bringing hundreds of millions of people out of poverty. Some individual countries, however, have seen a rise in inequality, or at least a perceived inequality, in that same period. This led to the rise of populist movements which saw the UK vote to leave the European Union and the election of Donald Trump as President of the US.

"We know very well it's good in the aggregate for the country, but we also know there will be losers and there will be gainers, and to a large extent what happened in the developed countries

over those years was that we didn't take very good care of the losers, so in some countries, inequality increased a lot," Bourguignon explained.

The way to even out this asymmetry, he advised, is for the developed countries which have seen this rise in exclusion to recognise the situation and act as quickly as possible.

Rule & Role Of Law

Looking at social change in the southern US, eastern Africa and China, Prof Robinson asserted change can be started from within. Bourguignon agreed, adding that there was a public appetite for it around the world. Zapatero maintained that education is important to ensure all are able to be involved, but while he agreed, Prof Robinson said it is "not a magic wand".

Quiroga described a judge in Brazil who had led a campaign to tackle corruption in recent years, enacting widespread changes to the legal system. Ensuring those who set out to illegally gain from countries were being targeted, interviewed and punished, and the information they shared was being used to further improve life for the public, had reduced corruption on a massive scale.

This approach, he said, is something that could be seen in other areas – such as African and other Latin American countries – to help ensure policies and funding are used for the good of the people, with the support of the people.

"Changes can be brought about. Leaders always help, social media will keep it engaged and World Bank reports will keep us talking about it and drive more change," he concluded.

3 REASONS PUBLIC POLICIES FAIL

1. Best practice is not followed
2. The policy does not receive adequate support or capacity
3. It lacks the political will to see it succeed

3 FACTORS THAT HELP PUBLIC POLICIES SUCCEED

1. They have the capacity to commit to long-term objectives
2. Citizens trust that announced policies will be implemented
3. People are willing to cooperate for the public good

**HE Dr Asman Abnur** (1)

Minister of Administrative & Bureaucratic Reform of Indonesia

HE Boris Koprivnikar (2)

Deputy Prime Minister & Minister of Public Administration of Slovenia

HE Maria Manuel Leitão Marques (3)

Minister of the Presidency & Minister of Administrative Modernisation of Portugal

Rolf Alter (4)

Director for Public Governance & Territorial Development of the Organisation for Economic Co-operation & Development, Moderator

Global Platform: Innovation & The **Future Of Governance**

In Collaboration With The Organisation For Economic Co-operation & Development

Austerity measures, big data and brainstorming with the public and government departments are three major drivers for innovation in government. Three ministers of state set out how their respective countries are taking innovative steps towards supporting governments of the future in a discussion session.

Her Excellency Maria Manuel Leitão Marques, Portugal's Minister of the Presidency and Minister of Administrative Modernisation, Slovenia's Deputy Prime Minister His Excellency Boris Koprivnikar and Indonesia's Minister of Administrative & Bureaucratic Reform His Excellency Dr Asman Abnur sat down with Rolf Alter from the Organisation for Economic Co-operation & Development (OECD) to discuss how technology and planning are shaping their governments.

Portugal's Innovative Projects

Portugal's hand has been forced into innovative reform as its government has demanded more with less money. According to Marques, who also teaches economics at the University of Coimbra, this means the country must find new and unique ways of helping its

citizens. The Government of Portugal has begun by asking citizens what they want their future to look like and testing solutions to ensure they really address the problems at hand before they are deployed.

Marques explained that the government has created an experimentation laboratory, which allows it to design and test public services. It has also begun using mapping to streamline the purchase of goods and services and help review the cost of government spending.

Portugal hopes to cut out needless policy steps, Marques said, which is why she has helped create Simplex, a government programme that does just that. By filtering policies down through local governments to deliver priorities, the programme cuts out unnecessary red tape to deliver simpler public services faster and more efficiently.

The Participatory Budget

Another vital innovation in Portugal has allowed citizens to have their say regarding how the country's budget should be spent.

In 2016, the country enacted the world's first participatory budget on a national scale. Through this system, citizens can submit proposals on how they believe the government's money should be spent in the areas of education, science, culture and agriculture. Marques said that not only does this policy ensure money is well spent, it 'mobilises' the people and allows them to be directly involved in how their country is run.

"All over the country they are organising meetings to consider views," she explained. "The ideas will be voted on and the winner developed by the government."

Slovenia's Focus On Technology

Implementing a wealth of new technology and learning how to use it effectively is the key to Slovenia's innovations. Koprivnikar, who is also the country's Minister of Public Administration explained that his government is exploring how it can gain access to data that will help find new solutions to the challenges the country is facing.

"New technology is there, so the question is how do we adapt to new

circumstances," he said. "We are all becoming part of one big ecosystem. Globally we are trying to share communication and data."

Koprivnikar believes encouraging Slovenia's citizens to share non-private data holds the key to innovation, as knowledge can be shared more freely and openly, rather than being tucked away where it cannot be used. According to him, everything except a person's most private data should be centralised to help the government spark innovation.

He explained: "Data that is not conflicting, like business interests, should be shared for the public good. Informatics is a nerve system of the government, and if it is not centralised other parts are out of control."

Indonesia's Push For e-Government

The Government of Indonesia views technology and innovation as a natural and necessary pairing in the 21st century, and encourages its citizens to get involved.

Throughout the year, members of the public who are eager to have a say in their country's future present their

innovative ideas to the government and enter state-run competitions. Dr Abnur, who is in charge of Indonesia's policies on reform, explained that innovations across the country have grown significantly every year since 2014 as a result of this initiative.

"We have made a policy which is one innovation per institution," he said. "We have approximately 500 local governments which have initiated using e-government. In 2014, there were 514 innovations. In 2015, we had 1,589 innovations, and in 2016 we had 2,476 new innovations from local and central government. The trends are growing each year."

At the moment, 59 new projects have been selected to be replicated by local governments, including budget management. Meetings are held in communities most nights to allow new information and technology to be spread around the country as quickly as possible through the e-government system.

The emphasis on innovation has become so focused in Indonesia that local governments are sanctioned if they do not sign up for the e-government system to develop projects.

4 INNOVATIONS FOR THE FUTURE OF GOVERNANCE**1. Experimentation laboratories**

Portugal has established a programme by which public services can be designed and tested before being implemented.

2. Participatory budgets

This system, which was introduced in Portugal for the first time on a national scale, allows citizens to be involved in deciding how the government spends its money.

3. Big data

Slovenia is advocating to centralise all but the most personal data in order to fuel innovation.

4. Innovation competitions

Indonesia is fostering innovation through state-run competitions that encourage the public to submit their ideas on how the government can be improved.



Climate Change & Food Security Forum

The global challenge of food security in the face of climate change was tackled by world leaders during the Climate Change & Food Security Forum, held on the sidelines of the World Government Summit 2017 under the auspices of His Excellency Dr Thani Ahmed Al Zeyoudi, Minister of Climate Change & Environment of the United Arab Emirates.



**Dr Brandon Barnett** (1)

Director of Corporate Strategy at Intel Corporation

Chan Cheow Hoe (2)

Government Chief Information Officer & Assistant Chief Executive of the Infocomm Development Authority of Singapore

Deborah Wetzel (3)

Senior Director for Governance Global Practice at the World Bank

Robbie Schingler (4)

Co-founder & Chief Strategy Officer of Planet Labs

Rory Cellan-Jones

Technology Correspondent for BBC, Moderator

Future Of Government

In Collaboration With The World Bank

// Big data provides huge opportunities for government, but also interesting challenges //

The world is riding a wave of increasing data. This is a virtuous cycle, according to Dr Brandon Barnett, who has spent his career developing strategies to achieve new growth businesses, where more and more data is created from devices, uploaded to the cloud and then deployed to analytics and memory systems.

Currently, governments mainly use this big data as a resource to better answer questions. Its real potential, however, is in helping us shape the questions we should be asking, not just helping us answer the questions we already know to ask. It is only when governments are clear about the problem they are trying to solve that big data becomes truly groundbreaking.

Combining examples with recommendations, Intel's Dr Barnett, Infocomm Development Authority of Singapore's Chan Cheow Hoe, the World

Bank's Deborah Wetzel and former NASA scientist Robbie Schingler set out a clear blueprint for how governments can take advantage of the big data revolution in a panel discussion moderated by the BBC's Rory Cellan-Jones.

Can Developing Nations Use Big Data?

The four panellists agreed that it is easier for wealthy countries to explore big data projects, but this does not mean developing nations are excluded. Hoe advocated the 'start small' principle, meaning governments should do whatever they can afford, then build on it later – so long as they start.

Schingler agreed and identified timeliness as the key benefit they will receive. For a health or transport minister in a developing nation, being able to see context, act swiftly and reprioritise decisions is invaluable.

His Planet Labs organisation, which seeks to make the Earth's changes visible by imaging the planet every day, makes information available and accessible to all. This enables even non-experts to monitor things such as food security, water supply and population growth.

Projects Governments Can Try: The Singapore Story

Singapore is among the nations at the forefront of applying big data in civil contexts. Hoe described the starting point for this as the creation of what he calls a 'whole-government API' about three years ago. We can think of this system as a network of pipes and gates that allow data to flow easily both within agencies and between the government and the public. It enabled a fundamental shift from static to dynamic data, and allows departments to share data – in fact, he added, they were mandated to do so.

2 SAMPLE APPLICATIONS FROM SINGAPORE

1. Predicting economic growth

Traditionally, Hoe explained, governments forecast economic growth using historic macro-economic information gathered from the preceding three months, year or other specified time frame. Singapore, however, has successfully trialled big data as an alternative predictor. They monitored factors such as power

usage, water consumption and transport patterns in selected target sectors, such as semiconductors. A noticeable rise or fall in these indicates the corresponding health of that sector, which can then be extrapolated to economic predictions with strong accuracy. He suggested that this model could be extended across an entire country's economic system.

2. Improving transport

Singapore also used big data to change its bus service. By collecting data on millions of daily journeys, the government was able to adjust the service to better meet patterns in this data. Travel times were improved by 30% to 40%, and the government also found that passengers were prepared to pay slightly more for improved predictability. Hoe foresaw this model being extended to taxis and other transport systems, and also into joint public-private sector approaches, where both suppliers and buyers have more choice.

Wetzel, who has more than 25 years of experience in development work around the world, added to this with examples of projects in Brazil that are using data to respond to health issues, and in Indonesia that are tracking the climate change implications of forest fires.

7 POINT ACTION PLAN FOR USING BIG DATA

1. While entrepreneurs and the private sector may lead the big data charge, governments should shape the context, thinking about the socio-economic influences and the commercial applications
2. Public and private sector data sources need to come together and collaborate more. This is happening, in the view of Dr Barnett, and will continue to do so while accompanied by a clear value exchange
3. According to Wetzel, governments need to look at broader skillsets. They need data scientists, able to analyse information and interpret what it means. These scientists, however, also need 'human interaction' capabilities, so that

they can then relate to the rest of society what that data means

4. Standards are also a key area of focus. Regulatory frameworks, civil liberties and privacy are all important, as is security. Big data can be powerful in spotting corruption and fraud, but governments also need to understand what it would mean if a data system was hacked
5. Governments need to change culture and the mindsets of society. In the past, they were seen as the 'gatekeepers' of data, collecting and disseminating national statistics. Today, data is more universal and democratic, with changing notions of trust, ownership and accountability
6. Big data does not render traditional sources redundant. Governments need smart solutions that combine both
7. Big data should not just mean more data. Hoe pointed out that the more a government can correlate data, and be 'surgical' and precise in its use, the more it will benefit





Dimitris Tsitsiragos (Second Left)
Vice President of New Business of the International Finance Corporation

Joseph Brandt (Third Left)
CEO & President of ContourGlobal

Sandeep Aneja (First Right)
Founder & Managing Partner of Kaizen Private Equity

Anna Ryott (Third Right)
Managing Director of Swedfund International

Fadi Ghandour (Second Right)
Executive Chairman of Wamda

Richard Dean (First Left)
Broadcaster for Dubai Eye 103.8, Moderator

The **Private Sector** Of The Future In Collaboration With The International Finance Corporation

In this panel discussion, international experts in development came together to identify the opportunities that exist for private sector firms to work with governments. They also discussed the barriers that would need to be overcome in order for this to be successful.

3 OPPORTUNITY AREAS FOR THE PRIVATE SECTOR

Dimitris Tsitsiragos, Vice President of New Business of the International Finance Corporation (IFC), opened the session by highlighting three areas where the private sector can not only deliver the projects governments and societies need, but also be successful and profitable at the same time.

1. Renewable energy

As this sector has become more viable economically, it has also become increasingly desirable to developing nations. It now represents a good business opportunity all around the world.

2. Urbanisation

Society is becoming increasingly urban, which is a trend that requires

massive infrastructure and new models for services, from public transport to healthcare. Where governments still provide these services, it's often operating at full capacity with no room to offer more – creating a clear opportunity for the private sector to step in, benefitting everyone.

3. Mobile banking and financial technology

'Traditional' bank accounts are relatively rare in developing nations. Globally, just 50% of women and 59% of men have access to one. Mobile phone penetration is far higher, creating a clear space for private sector players to fill. As an example, Tsitsiragos cited two companies that have stepped into this realm and achieved success. QCash in Bangladesh is a digital payment system that gained 11 million users in its first 30 months; and M-Pesa, a Kenyan mobile phone-based money transfer, financing and micro-financing service, has 13 million active users every month.

Private Sector Barriers

Of the challenges facing private sector involvement, the panel felt one clearly stood out – attracting investment.

Joseph Brandt, whose infrastructure firm ContourGlobal builds ports, power stations and more, emphasised that the main challenge is getting first-world capital into developing-world projects. Despite more than a decade of successful projects and initiatives, he still feels the private sector is stuck at the phase of having to attract very hesitant and nervous capital, project by project, without ever seeing real commitment or trust that such projects will successfully deliver.

He asserted that investors and boards have a misperception of the risk these projects hold, and an inability to see their opportunities. Coupled with the fact that investors in today's world are especially rapacious and focused on short-term results, a real roadblock has emerged. Unless it is overcome, the private sector won't make even a small dent in the developing world's huge need for infrastructure.

A New Approach

So what can be done to overcome this enormous barrier?

Anna Ryott, whose Swedfund firm works to bring capital to private sector projects in the developing world, was positive. She sees the private sector's main contribution to society as creating inclusive and sustainable jobs, and in line with this she suggested that a new business model is emerging. More so than ever before, business concepts now consider social impact and sustainable jobs – particularly for women, young people and refugees – alongside, and sometimes even ahead of, financial viability.

This isn't just an altruistic concept either, Ryott asserted. She suggested that the firms of the future will only make money if they are prepared to think about social impact. In fact, Swedfund has successfully deployed capital to numerous projects on this precise basis. Ryott added that the research and proof of concept increasingly supports this argument, alongside growing momentum among many boards and investors.

Fadi Ghandour agreed, stating it's important that the private sector is

relevant – something he defined as looking beyond making money and into positive social impact. In some ways, the 2008 global economic crisis was an opportunity for this reset to happen. Unfortunately, it didn't, and so Ghandour believes now is the time. Governments, especially in the Middle East and North Africa region, cannot create all of the jobs societies need, so the private sector must step in and fill the gap. To make this happen, he advised private sector entities to approach bodies such as the IFC for advice and collaboration.

Sandeep Aneja explained how his Kaizen fund proves this new approach can work. The fund was set up seven years ago to show that education in developing nations could be an investable asset class. Since then, the private sector has brought together governments, people and educators to collaborate successfully – an act that bears repeating across other sectors.

3 IDEAS FOR BUILDING SKILL SETS

While attracting capital is the private sector's biggest barrier, the panellists also touched on the need for

developing skill sets. Once companies are able to attract the necessary funding, they still require competent employees to carry out the work at hand. Three of the experts offered ideas on how to address this:

- 1. Brandt explained that his organisation always looks to train and educate local employees. They may not have the technical knowledge or experience at the outset, but they have the right attitude and potential – two invaluable traits**
- 2. Aneja suggested that the main skills-education systems need to equip students with the ability to both learn and unlearn. In other words, they must know how to reinvent their skills for a future world that will change constantly, and where roles and skill sets may go from essential to redundant very quickly**
- 3. Tsitsiragos added that people need soft skills, not just technical skills, as these will be key to success in the future**





HE Pierre Gramegna (1, First Left)
Minister of Finance of Luxembourg

Jörg Gasser (2)
State Secretary for International Financial Matters of Switzerland

Howard Lee (4)
Senior Executive Director of the Hong Kong Monetary Authority

Jill Carlson (3, Centre)
Partner Lead & Business Development Lead at Chain

Patrick Murck (3, Right)
Special Counsel at Cooley LLP, Fellow at Berkman Klein Center for Internet & Society at Harvard University

Ross Leckow (1, First Right)
Deputy General Counsel at the International Monetary Fund, Moderator

The Technologies Of Finance

In Collaboration With The International Monetary Fund

While innovation has enabled financial organisations to compete in the international marketplace, digitalisation and globalisation are dividing communities at home.

In a panel discussion moderated by the International Monetary Fund's Ross Leckow, His Excellency Pierre Gramegna, Minister of Finance of Luxembourg; Jörg Gasser, State Secretary for International Financial Matters of Switzerland; Howard Lee, Senior Executive Director of the Hong Kong Monetary Authority; Patrick Murck, Special Counsel at Cooley LLP and Jill Carlson, Partner Lead and Business Development Lead for Chain, examined some of the challenges and opportunities created by digital technology in finance, or 'FinTech'.

Perceptions Of Digital Finance

The panel of finance experts looked at how companies use new technology and innovation alongside existing resources to help them compete in the international marketplace by replacing or enhancing traditional financial services.

Gramegna emphasised how important it is that companies and organisations keep their members informed while they

are making changes to incorporate FinTech. Keeping clients updated helps ease doubts and fears that changes to the industry could cost people their livelihoods. Gramegna asserted that politicians and other players in the financial market have a responsibility to explain what they are doing and why.

The world is losing faith in the idea that open markets bring more wealth to all residents, he explained, and it is the responsibility of those in positions of power to restore that belief, but also to ensure that economic growth directly benefits the people. All five panellists agreed that FinTech could provide everyone access to banking and financial services, but also acknowledged that it does not do much good for those who don't have money to begin with.

A Digital Divide

Gasser then explained that a 'digital divide' is growing between those willing to embrace FinTech and digital technology for everyday banking, and those who still prefer to conduct their financial business offline.

Previously, the primary concern was that developing countries would not deal well with the digitalisation process. In

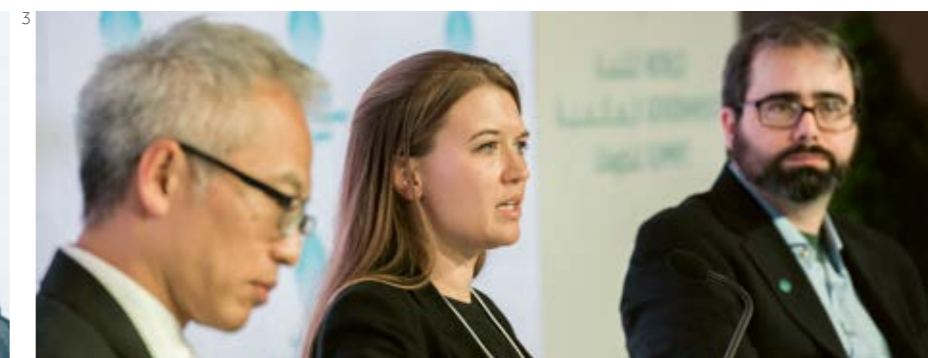
recent years, however, Gasser described how he has seen people in countries such as Kenya and Afghanistan adapt easily and enthusiastically to performing their banking activities via smartphones and other devices. This, he pointed out, suggests that the biggest divide exists in more developed countries, and is particularly common between younger and older residents.

The best way to deal with this issue, Gasser posited, is to use both on and offline methods of banking in tandem, allowing hesitant clients to acclimate gradually to the digital systems.

3 WAYS GOVERNMENTS CAN SUPPORT FINTECH

Lee pointed out that regulators and governments could help ease the deployment of FinTech in three major ways.

- 1. Regulators should be ready to respond quickly to any issues that may arise when new technologies are deployed. Just because a new technology is good in and of itself, that does not mean its implementation will be flawless**



4 CHALLENGES FOR FINTECH

1. Confidentiality

According to Gramegna, this is one of FinTech's greatest challenges, and one which he is not sure how to solve. He asserted that it needs to be addressed on a global scale, which will be difficult due to the number of FinTech systems and start-ups around the world.

2. Globalisation

While this may present important opportunities for FinTech, such as allowing markets to operate around the world in new, digital currencies, globalisation could also lead to entire skill sets becoming obsolete, said Gasser. "Our kids don't know what knowledge or jobs they will have available in the near future, so how do we prepare the new generation to be able to cope with these fast-evolving changes?" he added, advising governments to start thinking seriously about ways to answer this question.

3. Education

Educating young people on the knowledge and skills needed to fill the roles of the future financial industry was another great challenge, said Carlson, whose technology company helps build, deploy and operate blockchain networks for financial products and services. The private sector also needs to be educated on the potential and implications of FinTech, she said.

4. Regulation

As with any new technology, regulation will be key. Murck emphasised the importance of ensuring FinTech regulation is neutral and principles-based, and applied in proportion to the observed risk of any given service. He advised regulators to look at existing rules and protocols to assess whether they are appropriate for an innovative FinTech future.

**Sir Anthony Seldon** (1)

Vice Chancellor of the University of Buckingham,
President of the International Positive Education Network

Lord James O'Shaughnessy (2)

Parliamentary Under Secretary of State for Health of the United Kingdom,
Co-founder of the International Positive Education Network

Dr Martin Seligman (3)

Director of the Positive Psychology Center at the University of Pennsylvania

Charlie Scudamore (4)

Vice Principal of Geelong Grammar School

Héctor Escamilla (5)

Rector at TecMilenio University

Global Perspectives On Positive Education

In Collaboration With The International Positive Education Network

Education and well-being should go hand in hand. This was one of the Summit's key topics of discussion and, during this group session, four education experts discussed how these elements can be combined in a practical way.

Through a series of presentations, they provided several strong examples to accompany the theory.

From a secondary school in Australia to a university in Mexico and an international body that aims to unite best practice, Sir Anthony Seldon, Lord James O'Shaughnessy, Dr Martin Seligman, Charlie Scudamore and Héctor Escamilla set out a raft of key recommendations. All were in agreement with a comment from Scudamore, who stressed that "well-being is too important to place at the periphery of the curriculum. Well-being should be the core of education".

The Value Of Positive Education

Seldon and O'Shaughnessy, both from the International Positive Education Network (IPEN), pointed out that governments need to change the outdated education model which promotes simply learning facts for tests. Education should instead focus on

teaching entrepreneurial, active learning skills to produce citizens who engage with others and solve problems.

IPEN aims to bring together everyone who believes that academia and happiness go together, to work in three main pillars:

1. **Policy**
2. **Practice**
3. **Collaboration**

Practice is the main focus, confirmed O'Shaughnessy, who in addition to being the co-founder of IPEN is also the founder of Floreat Education, a primary school provider that aims to deliver excellent character and academic education. He felt the time is right for the concept of positive education to land with parents, teachers, policy-makers and others. Teachers are critical, he said: curricula and policy frameworks are important, but teachers matter most.

IPEN conducted a study in the United Kingdom (UK), which showed that 90% of parents and two-thirds of policy-makers supported positive education. The pair also argued that only 35% to 40% of 'happiness' is genetic; the rest is environmental – meaning schools are

vital to creating this happy environment.

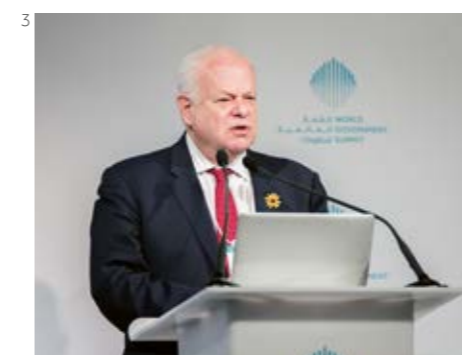
O'Shaughnessy's IPEN colleague Seldon, a recognised authority in the field of education, summed up the points he uses to persuade people on the value of positive education:

Most education still follows a 19th century model that promotes learning facts for tests: record, remember, repeat. But tests and exams count for nothing in the real world, he said – they are insufficient for the 21st century.

Governments also need to realise this. They need to grow citizens with entrepreneurial, active learning skills, who can engage with others and solve problems.

It is proven that schools that intelligently nurture happy staff and students see better results.

Regardless of faith, age and nationality, it is down to each one of us to make this happen; we should not just look to others to act.

**Preparing People For Life**

Scudamore and Escamilla both described how their schools focus on empowering students, supporting teachers and parents, finding a unique model rather than copying others, and having strong leadership and governance to implement and sustain positive education.

TecMilenio University in Mexico, which serves 52,000 students across 29 campuses, including one fully online campus, believes that educational institutions should do more than just give people knowledge and skills; they should prepare them for life. The university's rector, Escamilla, expanded on this objective. It is about preparing people to be happy, he said, giving them a purpose in life and the competencies required to succeed.

PROOF STUDIES

Dr Martin Seligman, Director of the Positive Psychology Center at the University of Pennsylvania, concluded the session by detailing a number of studies from around the world which prove positive education directly improves performance.

Dr Seligman, who is credited with founding the field of positive psychology, described projects which took place across 18 schools in Bhutan, 35 schools in Mexico and another with 690,000 students in Peru.

**ESCAMILLA'S
4 SUCCESS FACTORS**

1. **Empower students with the flexibility to design their own courses**
2. **Ensure students learn by doing, with full semesters in industry**
3. **Cultivate well-being as a key part of the curriculum**
4. **Support teachers in their effort to fulfil all of the above. For example, all TecMilenio staff are certified in positive psychology and positive education**

Sustaining Positive Education

Scudamore, from Geelong Grammar School in Australia, relayed the lessons his school had learned in first implementing and later sustaining positive education. He concentrated on the challenge of sustainment once initial enthusiasm had run its natural course.

The school began including well-being in its plans in 2001 and happiness was made a fundamental element of the curriculum in 2007. In terms of implementing positive education, he pointed out that time needs to be found for it in the curriculum. The school had

anticipated that teachers would resist giving up lesson time from subjects such as mathematics and science to accommodate well-being but, in fact, the reverse happened, and 40 staff devoted their time and effort over three days to writing a new school vision that reflected a positive education approach.

**SCUDAMORE'S KEY STEPS
FOR IMPLEMENTATION**

1. **Listen to students; they'll help you get it right**
2. **Provide opportunities for parents and teachers to learn positive psychology too**
3. **Be aware that those who are not interested are the ones that schools need to reach the most**

**3 PRINCIPLES FOR SUSTAINING A
POSITIVE EDUCATION MODEL**

1. **Have a clear and shared vision**
2. **Have strong leadership and governance**
3. **Commit resources in systemic and intentional ways**


Abdulah bin Bijad Al Otaibi

Writer & Political Analyst

Yasser Al Amro

Anchor for MBC, Moderator

The Making Of An **Extremist**

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There is hope to find solutions that will yield results

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Are human beings inherently good or evil?

This question has troubled both philosophy and religion for years, Abdulah bin Bijad Al Otaibi said, but all agree the answer is both, with the evil inclination being responsible for terrorism, extremism, murder and hatred.

Manipulating Interpretive Systems

Extremism has no religion, but many religions and civilisations have gone through stages of war and bloodshed because of issues around identity. This problem is not one restricted to Islam, the Saudi Arabian researcher and writer told his audience.

Today, Christianity may be known as a religion of love, tolerance and co-existence, but one look at the Bible's book of Matthew will show it says: "I did not come to bring peace, but a sword." This example shows clearly that the interpretative systems put onto religious

texts can steer them towards love and tolerance or towards hatred.

"Extremists can always search religious texts to find what they need to build this system upon," Al Otaibi said.

He went on to explain that extremism and terrorism are two different things. Extremism, on the one hand, is an ideological and emotional system that exists in the mind, heart and beliefs. Terrorists, on the other hand, have the same belief system, but they use it as a foundation for planning a terrorist act.

Terrorism Today

Unfortunately, Islam is the main suspect of the phenomenon of terrorism today, Al Otaibi said, and that sets down a tremendous responsibility for Muslims.

Delivering the world from extremism spread in the name of Islam must begin with the admission by Muslims that they are responsible for most of the extremism and terrorism that exists, in all nations, at present. While it may be true that others went through this stage, they were able to overcome it and the responsibility now lies with those who belong to Islam to find new solutions to eradicate extremism.

The world has seen how Islam as a divine religion of love and tolerance has been 'lined with explosives', he added. Selective reading of religious heritage is how evil ideas, and ideas about violence and terrorism, have been extracted. Al Otaibi described three systems that have then been built and promoted as Islam using this approach.

3 EARLY SOURCES OF ISLAMIC EXTREMISM

1. **Sultan Abdul Hameed, the Ottoman Caliph who was fond of intelligence sources and built vast networks of them in the region under Ottoman rule**
2. **The Indian Islam from which Abul A'la Maududi, who was responsible for many contemporary radical ideas, emerged. It also influenced both Sayyid Qutb, a leading member of the Egyptian Muslim Brotherhood, and Ruhollah Khomeini, the Iranian Shia religious leader who became the first Supreme Leader of Iran**



3. **Jamal Al-Din Al-Afghani, whose students created entire interpretative systems that adopt and advocate for extremism**

Re-establishing The Caliphate

Eight decades ago, the Muslim Brotherhood founded the aim of bringing back the caliphate, or Islamic state – an idea that was disseminated among all groups of political Islam. The concept was that the caliphate could be brought back by creating an organised group to perform its role in the state. The ideas spread like wildfire among the violent groups of the 1970s, right through to today's Islamic State of Iraq and the Levant (ISIL).

This discourse has created something which can be called 'agitated Islam' – an angry and spiteful version of the religion characterised by Muslims who feel pain, hatred and offence, and feel it is their duty to act upon this. Al Otaibi added that this agitated Islam was not born naturally, but made in an organised and mastered way through three things.

3 INGREDIENTS FOR AGITATED ISLAM

1. **Resentment**
Meaning a deep and intense anger. Al Otaibi pointed out that Sayyid Qutb even said he wanted to build schools that taught resentment.
2. **Frustration**
Organised and constant attacks on everything made by governments, whether that be development plans or visions for a modern state, with the aim of undermining the legitimacy of those governments, and creating their own authority.
3. **Violence**
Establishing a soldiery is mentioned by Hasan Al Banna, the founder of the Muslim Brotherhood, and was continued by Sayyid Qutb and others from the 1970s to the 1990s, all the way to ISIL and Al Qaeda. Al Banna admired Hitler, Mussolini and communist organisations. Ideas like apostasy were created by parties which were later taken into the Islamic space by Al Banna and his followers.

4 WAYS GOVERNMENTS CAN COMBAT EXTREMISM

1. **Develop a comprehensive strategy to improve the religious discourse that creates extremism. There is not going to be a single model that works for all – what works for Pakistan, for example, will not work for Morocco**
2. **Form a new legislative body that can keep up with developments in political crises and religious messages**
3. **Perhaps most crucially, governments must cut off unfettered financial support for extremism**
4. **Do not get discouraged. The problem is serious and will exist for a long time, but people should have great hopes for the future, said Al Otaibi**

**Bruce Schneier**

Fellow at the Berkman Center for Internet & Society at Harvard University

John Defterios

Emerging Markets Editor for CNNMoney, Moderator

Privacy & Prosperity: How Can Governments Strike Balance?

// We are living in the golden age of surveillance because data is collected about us all the time

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Mass data is the 'pollution problem' of the Information Age, and the current generation will be judged on how they handle it, security technologist Bruce Schneier told the Summit.

Schneier, who is a cryptographer and privacy specialist, explained that in today's 'golden age' of surveillance, data is being created constantly through every computer interaction a person has – with almost no option to opt out. This data is being increasingly stored and used by companies and governments, he said, resulting in a 'public-private surveillance partnership', which creates several information challenges.

'Pollution' In A Digital Age

Just like pollution, data is a by-product of the current age, and it is being created constantly. Every time someone interacts with a computer – whether browsing the internet, carrying a mobile

phone or using an 'internet of things' device – that interaction produces some form of data.

Not only is data being created at an astonishing rate, but it is also being increasingly stored and used. This means that governments and companies possess a wealth of information about people because, as Schneier put it, "no one ever lies to their search engine".

Under Surveillance

In today's digital world, people are constantly under surveillance, Schneier asserted. Mobile phones record people's locations and ATMs and credit cards record how much they spend and where. Schneier referred to this type of data as 'surveillance data'.

The ubiquity of surveillance data makes it very different to anything that's been seen before, he added. It is 'incidental', meaning it is a by-product of people's everyday lives. It is also covert – invisible to a normal person browsing the internet – and very difficult to opt out of. It would be almost impossible not to carry a cell phone, have an email address, or use a credit card and still be a fully functioning adult, Schneier said.

"Fundamentally, surveillance is the business model of the internet," Schneier explained. For free online services like Facebook and Gmail, the individual and the data they can offer are the products being sold to advertisers.

The Public-Private Partnership

Now that this surveillance data exists, governments and private companies alike are able to put it to use, leading to a 'public-private surveillance partnership'. This unique partnership produces much higher levels of surveillance than populations would otherwise tolerate.

Very few people, if any, would allow the government to demand that everyone carry a tracking device every minute of every day, Schneier said, but people around the world happily put a mobile phone in their pocket each morning. Similarly, people would never agree to alert the police every time they met someone new or submit copies of all their correspondence to the government, but they don't think twice about adding new friends on Facebook or sending emails through Google.

The ubiquity and availability of surveillance data presents several unique challenges.

3 CHALLENGES OF SURVEILLANCE DATA**1. Political liberty and justice**

There is the potential that someone could be 'accused by data'. While data may be good enough for advertising, it often will not be sufficient justification to arrest someone for a crime or launch a drone strike.

2. Commercial fairness and equity

Schneier pointed out that the availability of this data makes it easier for companies to discriminate against potential consumers.

3. Security and privacy

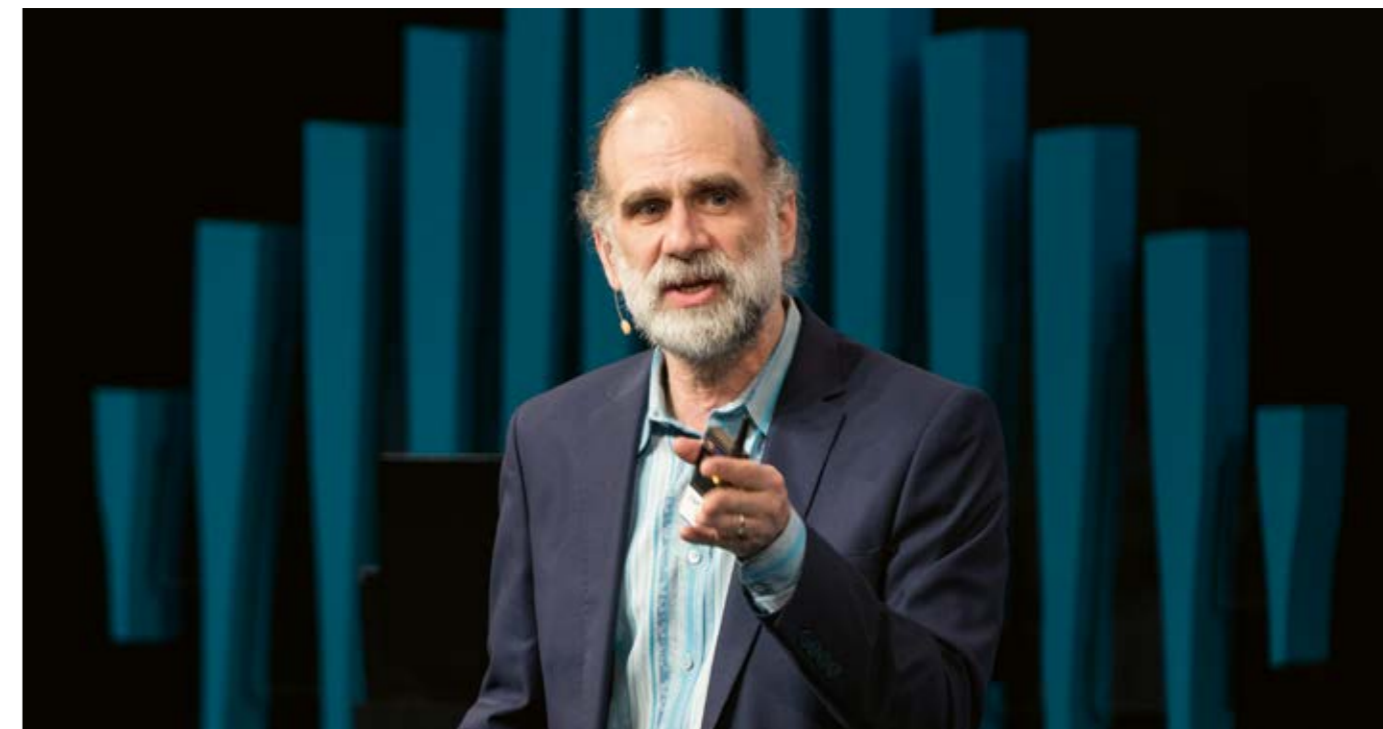
Collectively, data can have enormous value for things such as solving crimes and driving medical research, but when taken individually, the data constitutes personal information that is very valuable to the individual. Ensuring data privacy is one of the ways that people will be more secure in today's world of cybercrime, Schneier said.

4 WAYS GOVERNMENTS CAN ENSURE DATA IS USED RESPONSIBLY

Schneier outlined four measures that governments can take to ensure surveillance data is used responsibly and does not threaten the liberty, equity, security or privacy of citizens.

1. Governments must stop thinking about security and privacy as operating in opposition.

According to Schneier, the two work together. No one feels secure when their privacy has been violated, and security is necessary for privacy

2. Security should be prioritised over surveillance. The idea that it is acceptable to violate the privacy of the masses to identify an individual is mistaken, Schneier said. As technologies become increasingly embedded in governments and critical infrastructures, people will need to be reassured that their information is secure**3. Governments should strive for transparency so that people know how their data is being used and what oversight is in place to ensure organisations are being held accountable****4. They must accept that the internet world is very tightly connected, and that a single unified approach is required to mitigate the risks presented by surveillance data**

**Hanan Al Hroub**

Recipient of the 2016 Global Teacher Prize

Hend Al Otaiba

Director of Strategic Communications for Abu Dhabi Media, Moderator

The Power Of Play

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Children have the right to live joyfully and cheerfully, and to learn while having fun

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While education was discussed extensively during the Summit, some of the most inspiring and direct insight into the topic came from Hanan Al Hroub, a Palestinian secondary school teacher. Recipient of the Global Teacher Prize in 2016, her story conveyed several important ideas to the leaders and delegates in attendance.

In outlining the motivations, nature and benefits of her 'We Play, We Learn' method of teaching, Al Hroub provided a very real example of how education can make a genuine difference in society, and just why governments should prioritise it so much.

The Story Behind The Method

People are influenced by the circumstances they live under, Al Hroub explained. These shape how they approach the world. In many parts of the planet, such circumstances are extreme – whether through natural disasters or man-made conflict.

Al Hroub lives in the territory occupied by Israel. This political situation, she explained, is what pushes her and her colleagues. She described an environment where:

- **Children and teachers have to cross checkpoints to get to their schools**
- **When schools have been shut down, they have had to teach in houses and on streets**
- **Her own children have come under gunfire**

It was this latter, personal moment that was the most life-changing for Al Hroub. Following the encounter, her children had suffered at school, with low grades, poor concentration and even a dislike of attending school. The solution she developed for them used play, and inspired her to see how this could bring magic to a classroom.

The Role Of Teachers

It had also encouraged Al Hroub to gain a deeper understanding of what teachers could achieve, which stretches far beyond relaying information. The primary function of a teacher, according to Al Hroub, is to nurture first and then teach. Teachers are in a position to change emotions of anger and hatred into love and respect, and to use what happens outside the classroom to motivate students' behaviour and performance inside the classroom.

At the same time, she has also come to believe even more strongly that children have the right to learn while having fun. They have the right to exist in peace and freedom and to live joyfully.

We Play, We Learn

All of these realisations and experiences led Al Hroub to create 'We Play, We Learn', a system for bringing the magic of play into the classroom.

She explained how the technique was safe and fun. It gave children a role and got them involved. It helped them discover things and be strong. They acquired morals through play and used teamwork to gain respect for others. As a result, she said, the children she

worked with felt they were important, they were respected, they were wanted and they were strong. Most of all, they had hope for a better future and a better tomorrow.

Showing numerous pictures of the scheme at work, Al Hroub pointed out its practical advantages too. 'We Play, We Learn' is based on simple tools, taken from the surrounding environment and recycled. As such, it costs almost nothing to run. For example, her puppet theatre has been made from a drying rack, plus a chair and bookshelf salvaged from the garbage. Other materials she uses include everyday items such as egg containers and old car tyres.

The method could be applied at any level, from first grade to college. Even adults could benefit from it. It can also be applied equally in poor countries with limited budgets and rich countries with extensive technologies.

Play also matters, Al Hroub added, because knowledge is everywhere nowadays. Teaching is no longer about the acquisition of knowledge by students – it is about how those students explore, experience and employ that knowledge.

4 STEPS TO TAKING 'WE PLAY, WE LEARN' GLOBAL

1. **Teachers need to believe in the approach. They need conviction that it can make a difference to students' values and in society**
2. **Governments and policy-makers cannot overlook teachers. They matter. In Al Hroub's opinion, even the most advanced policies in the most advanced schools will fail if they do not start with teachers**
3. **A global club should be created for teachers to share successful experiences and work with policy-makers to change education for the better**
4. **Administrations will need to devise new ways to find, train and reward teachers, and to continuously motivate and improve them**

5 FUNCTIONS OF TEACHERS

1. **Teachers can replace feelings of anger, violence and hatred with love and respect**
2. **Teachers can turn events outside the classroom into a source of motivation for students inside the classroom**
3. **Teachers can liberate their students from fear and inspire them with a sense of courage and strength to face challenges in later life**
4. **Teachers can protect children's dreams and help make them a reality**
5. **Teachers nurture first and teach second**





Ibrahim Al Buleihi (1)

Writer & Philosopher

Yasser Al Amro (2, Left)

Anchor for MBC, Moderator

The Ideology Of Ignorance

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Leaving the mind to run arbitrarily is like having a hollow in the ground where everything carried by the wind will end up

//

Ignorance is the default state of the human mind and whatever gets to it first, occupies it, said Saudi Arabian writer and thinker Ibrahim Al Buleihi.

He argued that the general orientation of schools, the media, places of worship and other institutions should shift from alienation to tolerance, from hate to love. To change the mind, people must develop new habits that stop them from accepting unverified ideas.

What Forms The Mind?

According to Al Buleihi, human beings are not born with a mind but with entirely blank predispositions. The mind is then 'programmed' by whatever is in its environment.

Speaking to journalist Yasser Al Amro, Al Buleihi explained that modern science has shown the human mind cannot tell right from wrong or truth from illusion on its own, but is instead shaped by the information to which it is first exposed. "What gets to the mind first occupies it," said Al Buleihi. "Human beings are arbitrary creatures programmed by what gets to them first."

Unfortunately, what reaches the mind first is 'compound ignorance' – the type of ignorance in which a person does not know what it is that they do not know.

This 'occupation of the mind' by the first information it is exposed to also means that its programming is place-bound, Al Buleihi added. In other words, where a person is born partially determines how they perceive the world.

"How we are programmed becomes our measure to judge ideas, things and deeds, which means we trust our programming and consider it the absolute truth," he explained.

Is Education The Solution?

Education is not the one and only cure for this compound ignorance, Al Buleihi asserted, because societies do not teach ideas that will change them. They teach what they already believe in and they instil the values, ideas and perceptions they have inherited. Culture will continue to control people even after they are educated, he argued.

As an example, Al Buleihi explained that a doctor will possess an extensive education, but their basic mental structures, which were established in them during childhood, will not be very different from those of his or her illiterate parents. Consequently, it is a serious mistake for people to wait for education to free them from ignorance.

"Education never frees societies from ignorance. It actually establishes ignorance," Al Buleihi explained. It can only free people from ignorance or mindsets of alienation, violence and hatred if what is being taught first becomes the general orientation of society.



4 WAYS TO FREE THE MIND

1. Challenge society's perceptions
2. Do not accept ideas at face value
3. Train the mind in effective critical thinking
4. Guard the mind against false beliefs



The Measure Of Progress

Scientific discoveries and technological advancements alone do not equal progress. Instead, Al Buleihi asserted, progress is measured by a society's ability to change in response to new information.

He cited two examples from European history to illustrate his point – Copernicus and Martin Luther. When Copernicus announced that the Earth was not the centre of the universe but one of many other planets, it shook European civilisation to its core. Likewise, Martin Luther's staunch stance against the Roman Catholic Church proved that even dominating institutions could be criticised and challenged.

In both cases, society was not changed merely because new information was acquired, but because that information changed people's existing perceptions of the world. "Science is about changing perceptions, not adding information," Al Buleihi emphasised.

He also pointed out that 'truth' is not something that one can possess. Any person, society or culture that believes they do possess it is bigoted and close-minded, Al Buleihi emphasised, as even science is just an attempt to move closer to the truth.

5 RULES FOR USING THE MIND

The human mind is a farce if it becomes bigoted, Al Buleihi said, but as bigotry is the default state of the mind, that creates a problem. Al Buleihi described a series of 'rules' that people can observe in order to help overcome their initial programming.

1. One must understand the nature of the mind – that it is has been constructed by the influences that reached it first and so it is full of false predispositions
2. The mind is a person's greatest asset and should be protected
3. Minds are a product of their environment and so no two minds are exactly alike. This is why it takes concentrated effort for people to understand one another

4. No one is objective. When faced with new information, people instinctively view it through the lens of their own biases and preconceptions
5. The mind may have been built arbitrarily, but it can be deconstructed and rebuilt based on a scientific understanding of the world

**Parag Khanna**

Senior Research Fellow for the Centre on Asia & Globalisation at Lee Kuan Yew School of Public Policy at the National University of Singapore

Zeina Yazigi

Anchor for Sky News Arabia, Moderator

Liquid Borders: How Is Technology Reshaping The World?

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Every region of the world is becoming important. Our future is symmetrical rather than hierarchical

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Is the world becoming more divided along national and regional lines, or closer together?

While some recent geopolitical developments may support the former view, author and international affairs expert Parag Khanna told the Summit that he believes the opposite. He feels greater factors are at play – and that, in fact, the world is on course for its most united era ever.

Rapidly increasing connectivity – of technology, trade, cities, people – is rendering conventional borders 'liquid', ushering in new possibilities everywhere.

"We have more nations and states than ever before," he said, "but we are also building more connectivity than ever before."

Citing examples from all over the world Khanna, who is a Senior Research Fellow for the Centre on Asia & Globalisation at the Lee Kuan Yew School of Public Policy at the National University of Singapore and a CNN Global Contributor, suggested that the oft-predicted 'end of globalisation' needs rethinking in light of this more dynamic interpretation.

A New Way Of Looking At The World

Khanna described how a new 'skeleton' is being laid across the world, one of functional geography, that supersedes natural and political geographies. This topographical engineering embraces three main networks:

1. **Transportation**
2. **Energy**
3. **Communication**

Ongoing and rapid developments in all three will bring increasing complexity in coming decades. Khanna, who also holds the role of managing partner at geostrategic advisory firm Hybrid Reality, pointed out that the world population is close to 8 billion, yet our existing infrastructures in each of these

networks is more adequate for 3 to 4 billion people – a level the world had reached 50 years ago. By 2025, it is predicted that the world will need to spend \$8 trillion a year on infrastructure to service this population shift.

The Role Of Cities

As the world is becoming increasingly urbanised, much of the change is happening in cities.

Megacities, with populations of between 10 and 90 million people, are driving how the world now works. In many cases, cities now account for 50% of a nation's GDP, and this GDP largely depends on connectivity to the rest of the world – in terms of trade, finances, logistics, tourism and so on.

Indeed, Khanna suggested that it has become almost impossible to disentangle purely domestic GDP from this more global assessment. In his view, "the world is becoming a civilisation of connected cities".

The Impact On Trade

Trade is not ending, disappearing or reversing, according to Khanna. Those who see the end of globalisation as imminent need to appreciate how this skeleton of connectivity networks now sits on top of traditional borders and barriers, he pointed out.

In addition, trade is now as much digital as it is physical, and digital trade is booming. Witness the 350 submarine internet cables that now link the planet, he said – a development that shows no signs of abating. Moreover, global accords do not necessarily need to be large schemes, such as the Trans-Pacific Partnership from which the United States has recently withdrawn. Smaller, nimbler networks are already taking its place.

As a result, trade between regions such as Africa, South America and Asia is growing, not shrinking.

Migration Of People

As well as forecasting the demise of globalisation, many commentators point out that barriers are going up, walls are being built and the free movement of people is on a downward path.

Khanna, however, cited data to the contrary. In Africa and Asia, for example, governments have in the past 12 months passed legislation encouraging the free movement of 2 billion people.

"There are more expatriates now than at any point in human history," he claimed.

HOW IS ALL THIS LIQUIDITY AFFECTING THE WORLD?

Khanna concluded by looking at several parts of the world where the impact is apparent.

1. Europe

An oil and gas network now connects the whole continent, leading to flows of energy that do not depend on national borders.

2. Greater China

Huge investment in roads, pipelines and other networks is effectively connecting the republic with all 14 of its neighbouring countries.

3. Middle East

The Arab world is becoming the most urbanised region in the world. Everything from electricity to rail networks is receiving investment in order to build a future where Arab cities are more connected with one another.

4. South East Asia

Countries in South East Asia often collaborate to operate as one. United, they attract more global investment than China and generate a GDP that is twice the size of India's, with only half the population.

The overall path is towards an ever more liquid and connected world, where every region is important, and regions are symmetrical rather than hierarchical, as they have been in the past.





HE Dr Aisha Bin Bishr
Director General of Smart Dubai

Happiness Meter: The Dubai Experience

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Why, on Tuesday at 10am, are people more happy? I don't know the answer yet, but we're researching why this has happened

//

Her Excellency Dr Aisha Bin Bishr, Director General of Smart Dubai, examined how Dubai is using information to improve life for its people through the innovative Smart Dubai initiative.

The Smart Dubai Initiative

Smart Dubai is the region's first smart city initiative, and is a transformation based on a happiness-centric approach to improving life for the people of the city. Dr Bin Bishr said the ambition of the Smart Dubai initiative was to touch the lives of everyone in the city and help them achieve a happier life. The project encompasses six dimensions which impact the quality of life of residents and visitors.

6 DIMENSIONS OF SMART DUBAI

1. Smart economies

Creating innovative economic conditions to encourage entrepreneurship and competitiveness on a global level, and bring an additional 50 million visitors to Dubai by 2020.

2. Smart living

Improving and maintaining the quality of life for residents and visitors in Dubai, with customer services aiming to delight customers rather than simply provide services, and smart technology throughout government and private sector developments.

3. Smart governance

Dubai's e-government initiative has been running since 1999, with all government departments operating together, making it easier for consumers to use them online, on mobiles and on social media.

4. Smart mobility

Focusing on transportation, including both sustainable public transport and private travel, as well as the movement of information and ideas through state-of-the-art information and communications technology infrastructure.

5. Smart environment

Improving energy, waste management and living conditions for residents, and the implementation of smart services to monitor efficiency and balance environmental pollution.

6. Smart people

Making citizens, residents and businesses happy by encouraging public involvement in improving the city, education and innovation.

Dr Bin Bishr said she hoped to see more focus on smart economy and smart living, but huge leaps had been made over the last 15 to 20 years. Dubai has exceeded its expectations while keeping happiness at the core of its agenda.

The Happiness Agenda

Dr Bin Bishr said that in Dubai, happiness can be measured and, by addressing people's needs, increased. As part of the smart city initiative, more than 1,000 Happiness Meters have been installed at locations around the city, which ask for feedback on people's happiness – users press a button to say whether they are satisfied, neutral or dissatisfied with their service or experience – essentially creating a scientific measure of happiness at every customer interaction point.

Since installation, about 6 million votes had been received, showing a 90% state of happiness in the city in 2016.

The meters also help create a 'happiness map', which can be studied and shows where and when people are happy, highlighting specific trends which can be studied further by Dr Bin Bishr and her team with an aim to making Dubai 'the happiest city on earth' – a target set by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates, Ruler of Dubai.

As opposed to previous attempts to study happiness, where information would be collected and analysed in a process which could take years, the data from the Happiness Meters is available immediately, allowing faster analysis and for changes to be implemented more quickly. Quoting Sheikh Mohammed, Dr Bin Bishr explained: "I want to know how my people feel now, so I can intervene and improve that happiness level, and we can ask our existing data because, with this method, we can gather a lot of information and insight."

Through studying the results, Dr Bin Bishr said it was possible to see, for example, that people were happy at 10am on Tuesdays, but it does not necessarily show why they were happy at that particular time. Research is underway to improve the current method, which has an error margin of about 10%, Dr Bin Bishr said, but which would be reduced.

Work is also being done to find out more about how people are linked, with an aim to measure people's optimism, values, anxieties and connectedness through social media. In time, this will allow messages and information to be shared through new social groups which

4 AIMS OF A SMART CITY

1. Discovering what makes people happy
2. Changing the policies of government and private organisations to reflect people's needs
3. Educating people on how to recognise happiness
4. Measuring happiness

KEY POINTS

- Smart cities are here, but still under development
- Happiness is a key concept in the future of smart cities
- Policy can be designed within smart cities to help the public

SDGs In Action 2017

During the three days of the World Government Summit, experts from around the world focused on the role of science, technology and innovation in achieving the Sustainable Development Goals (SDGs), and shared individual country experiences, as well as the role of international organisations in the matter.



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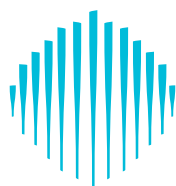
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● What are the possible scenarios for governments in the next 100 years?

● What are the attributes of a future leader?

● **What is the legacy of the 21st century?**

How can values and dreams impact society?

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● Is it the end of globalisation?

What is the future of nuclear energy?

● **Why should governments take psychological well-being seriously?**

● How can governments strike a balance between privacy and prosperity?

Can our education system destroy talent?

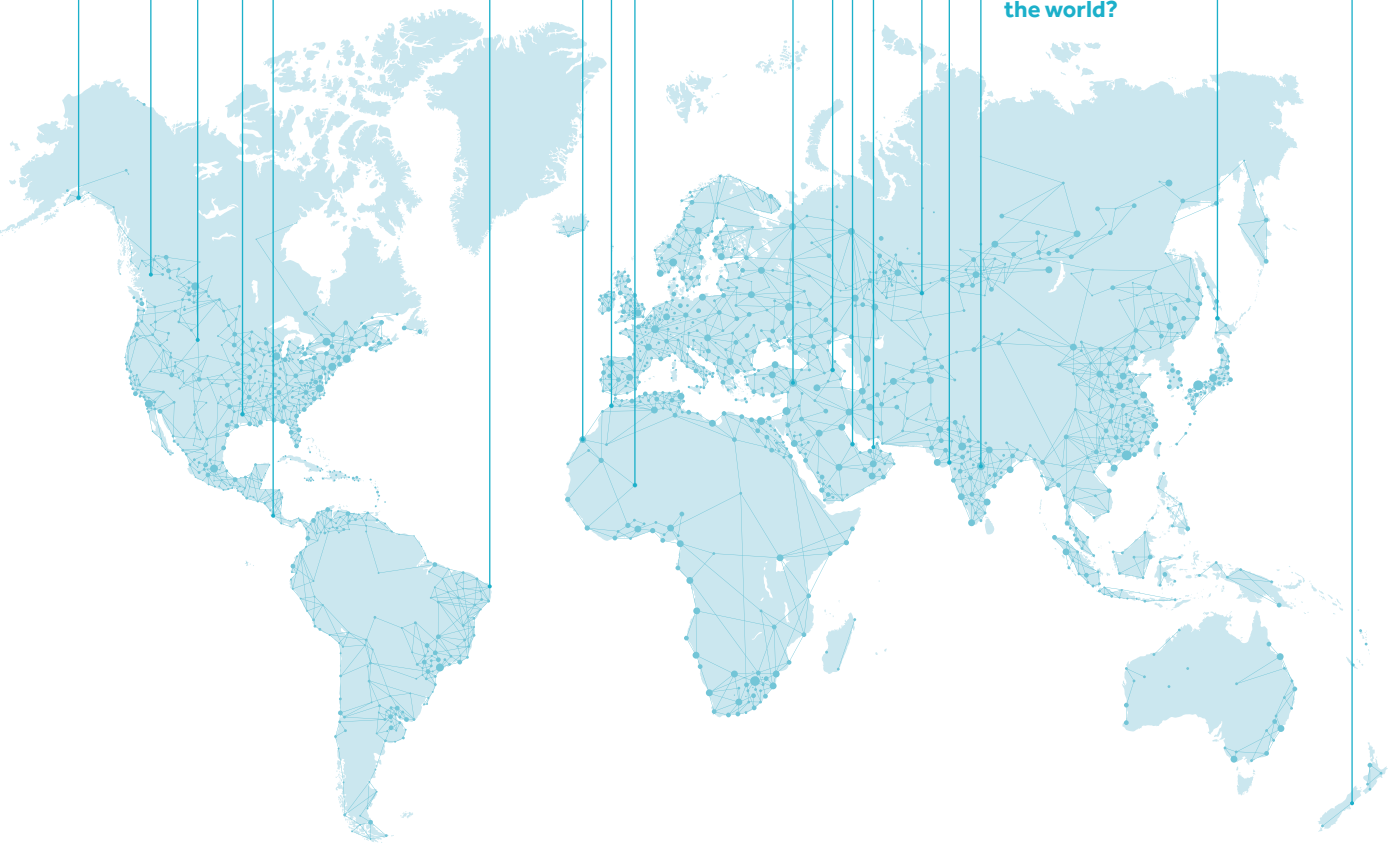
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● **How can the Middle East's development be reignited?**

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