

Speaking Notes for Senator The Hon. Ruel Reid
Minister in the Ministry of Education, Youth and
Information

For – The University of the Commonwealth
Caribbean [UCC]

Inaugural Annual Conference

Theme: Innovation, Technology and Leadership: A
Paradigm Shift

UCC Main Campus -17 Worthington Avenue
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Distinguished Ladies and Gentlemen I am grateful for your invitation to speak at this your Inaugural Annual Conference.

I am glad also that the University of the Commonwealth Caribbean [UCC] selected as its conference theme: **Innovation, Technology and Leadership: A paradigm Shift.**

Change the only constant

Ladies and gentlemen if we don't change we die. No matter how we philosophize, refine it, square it or disaggregate it - innovation, technology and leadership are connected to one single inseparable thread, called change. Change as the adage says is the only constant.

Ladies and gentlemen Professor Klaus Schwab, founder and Executive Chairman of the World Economic Forum says our time is characterized:

“Ubiquitous, mobile supercomputing, Artificially-intelligent robots, Self-driving cars, Neuro-technological brain enhancements, Genetic editing.”

Professor Schwab opines that the; “the evidence of change is all around us and it’s happening at exponential speed.” Schwab who has been at the centre of global affairs for over four decades posit that, “I am convinced that the period of change we are living through is more significant, and the ramifications of the latest technological revolution more profound than any prior period of human history.” Schwab has dubbed this era the Fourth Industrial Revolution.

First Industrial Revolution

Ladies and gentlemen all change in history have come with risks and benefits. The first Industrial Revolution was the transition to new manufacturing processes in the period from about 1760 to sometime between 1820 and 1840. This transition included going from hand production methods to machines, new chemical manufacturing and iron production processes, the increasing use of steam power, the development of machine tools and the rise of the factory system. Textiles were the dominant industry of the Industrial Revolution in terms of employment, value of output and capital invested; the textile industry was also the first to use modern production methods.

The first Industrial Revolution began in Great Britain and many of the technological innovations were British. By the mid-18th century Britain controlled a global trading empire with colonies in North America and political influence over the Indian subcontinent by the East India Company. The development of trade and the rise of business were major consequences of the Industrial Revolution.

The first Industrial Revolution marked a major turning point in history; almost every aspect of daily life was influenced in some way. In particular, average income and population began to exhibit unprecedented sustained growth. Some economists say that the major impact of the Industrial

Revolution was that the standard of living for the general population began to increase consistently for the first time in history, although others have said that it did not begin to meaningfully improve until the late 19th and 20th centuries.

Second Industrial Revolution

The Second Industrial Revolution, also known as the Technological Revolution, was a phase of rapid industrialization in the final third of the 19th century and the beginning of the 20th. The First Industrial Revolution, which ended in the early to mid-1800s, was punctuated by a slowdown in macro inventions before the Second Industrial Revolution in 1870.

Though a number of its characteristic events can be traced to earlier innovations in manufacturing, such as the establishment of a machine tool industry, the development of methods for manufacturing interchangeable parts and the invention of the Bessemer Process to produce steel, the Second Industrial Revolution is generally dated between 1870 and 1914 up to the start of World War I. Advancements in manufacturing and production technology enabled the widespread adoption of pre-existing technological systems such as telegraph and railroad networks, gas and water supply, and sewage systems, which had earlier been concentrated to a few select cities.

The enormous expansion of rail and telegraph lines after 1870 allowed unprecedented movement of people and ideas, which culminated in a new wave of globalization. In the same time period, new technological systems were introduced most significantly electrical power and telephones. The Second Industrial Revolution continued into the 20th century with early factory electrification and the production line, and ended at the start of World War I.

Third Industrial Revolution

The Third Industrial Revolution - started in the middle of the last century, - it has brought us digital technologies, computers, the IT industry, and the automation of processes in just about all industries.

Fourth Industrial Revolution

The fourth industrial revolution builds on our on-going digital revolution. Dr Klaus Schwab, says, “We are at the beginning of a revolution that is fundamentally changing the way we live, work, and relate to one another. In its scale, scope and complexity, what I consider to be the fourth industrial revolution is unlike anything humankind has experienced before...”

Ladies and gentlemen, I want us to think on this sentence; “the fourth industrial revolution is unlike anything humankind has experienced before...”

Why is this statement significant? Some technology experts like Head of the Future of Humanity Institute at Oxford University; Professor Nick

Bostrom in a recent interview with the BBC said “the goal of technology is full unemployment.” Is there going to be a time when machines will be to perform almost all the critical work tasks of human beings? Experts like Professor Bostrom says, that is not unrealistic.

Ladies and gentlemen technological innovations are now almost limitless – at least in theory. Consider the unlimited possibilities of having billions of people connected by mobile devices, giving rise to unprecedented processing power, storage capabilities and knowledge access. Or think about the confluence of emerging technology breakthroughs, covering wide-ranging fields such as

artificial intelligence (AI), robotics, the internet of things (IoT), autonomous vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy storage and quantum computing, to name a few.

Dr Schwab who invented the term Fourth Industrial Revolution says, “Many of these innovations are in their infancy, but they are already reaching an inflection point in their development as they build on and amplify each other in a fusion of technologies across the physical, digital and biological worlds.”

Ladies and gentlemen, the future is here. What will determine the kind of future we enjoy is preparation of our people for inevitable technological changes. This preparation will require greater innovation by universities like the University of the Commonwealth Caribbean [UCC].

Ladies and gentlemen, business as usual is dead – we must now shift to a paradigm of business extraordinary. This will mean a new focus, a new mind-set and cultural orientation for our people and of course new approaches to leadership at the policy level. The World Economic Forum in its recently published Global Risk Report which took a close look at the risks posed by the Fourth Industrial Revolution noted that, “The extent to which the

benefits are maximized and the risks mitigated will depend on the quality of governance - the rules, norms, standards, incentives, institutions and other mechanisms that shape the development and deployment of each particular technology.”

Dr Klaus Schwab similarly posits that “Technology is not an exogenous force over which we have no control. We are not constrained by a binary choice between accept and live with it *and* reject and live without it. Instead, take dramatic technological change as an invitation to reflect about who we are and how we see the world. The more we think about how to harness the technology revolution, the more we will examine ourselves and the underlying social models that these technologies

embody and enable, and the more we will have an opportunity to shape the revolution in a manner that improves the state of the world.”

Ladies and gentlemen as we embrace more of more of the benefits and risks of technological change – we must simultaneously embrace innovative leadership tailored to our unique needs in region.

As an approach to organization development, innovation leadership can support achievement of the mission or the vision of an organization or group. With new technologies and processes, it is necessary for organizations to think innovatively to ensure continued success and to stay competitive. Without innovation leadership, organizations are likely to struggle.

This new call for innovation represents the shift from the 20th century, traditional view of organizational practices, which discouraged employee innovative behaviours, to the 21st-century view of valuing innovative thinking as a “potentially powerful influence on organizational performance,” according to Dr David Gliddon, of Penn State University.

Ladies and gentlemen I believe that our universities need to put more emphasis on especially value-added and exploratory innovation.

Value-Added Innovation

Value-added innovation may require a completely new way of thinking and possibly taking new risks.

The innovation leader must gauge if (and how much) risk and radical thinking are involved in the value-added innovation to determine which leadership style to use in a situation. The leader must be flexible—able to switch leadership behaviours when necessary.

Exploratory Innovation

The foundation of exploratory innovation is characterized by search, discovery, experimentation, and risk taking. It is the organization's focus on generating new ideas,

products and strategies; in contrast to exploitative innovation, which focuses on building and extending already existing ideas. Exploratory innovation requires flexibility, opportunism, adaptability, and for leaders to provide intellectual stimulation to their subordinates. In this approach to innovation, the leadership style that is primarily used is transformational. The behaviours exhibited are believed to achieve the desired creative outcome from employees through the application of individualized consideration, charisma, and inspirational motivation.

Depending on the type of leadership style that is adopted by the innovation leader, the leader may

have either a direct or indirect influence on the employees.

Direct Influences

Direct forms of influence in leading innovation include:

- providing creative input and idea suggestion to employees
- providing employees with clear and concrete goals
- allocating organizational resources (i.e. research and development spending; manpower) for implementing ideas

Indirect Influences

Indirect influences get the same results without providing explicit guidance to employees. These types of influences include:

- establishing a supportive climate for creativity within the organization
- acting as a role model for innovative thinking
- providing employees with rewards and recognition for innovative thinking
- hiring and team composition (i.e. putting together teams with specific skill sets needed for innovative thinking, or hiring employees with creative personalities without planning what they work on).

Finally, without an innovation strategy, different parts of an organization can easily wind up pursuing conflicting priorities—even if there's a clear business strategy. Diverse perspectives are critical to successful innovation. But without a strategy to integrate and align those perspectives around common priorities, the power of diversity is blunted or, worse, becomes self-defeating.

THANK YOU!