Broadcasting Commission presents

THE Future of Media & Regulation CONFERENCE

Port Antonio Suite, Jamaica Pegasus Hotel
Tuesday April 8, 2014 | 9:00 a.m. - 4:30 p.m. (EST)
10:00 a.m. - 5:30 p.m. (AST)

"Explore innovations, emerging trends and challenges in a rapidly transforming media and entertainment landscape."

RAPPORTEUR'S REPORT

Prepared by Allison Brown
for
Broadcasting Commission of Jamaica

April 2014

Contents

List of Abbreviations and Acronyms

API - Application Program Interface

BBC – British Broadcasting Corporation

BCJ – Broadcasting Commission of Jamaica

CARIMAC – Caribbean Institute of Media and Communication

DSO – Digital Switchover

DTV – Digital Television

DVD – Digital Versatile Disc

DVR – Digital Video Recorder

FIFA - Fédération Internationale de Football Association (International Football Association)

FTA – Free to Air

FTTX – Fibre to the Home

GPON – Gigabit Capable Optical Passive Network

GPS – Global Positioning System

HCI – Human Computer Interaction

HFC – High Fibre Coaxial

HGTV – Home and Garden TV

IOC – International Olympic Committee

iOS - an operating system used for mobile devices manufactured by Apple Inc.

IP – Internet Protocol

IPTV – Internet Protocol Television

JAWS – Job Access with Speech

JBC – Jamaica Broadcasting Corporation

LTE - Long-term evolution (a 4G communications standard)

Mbps – Megabits per second

MoCA – Media over Cable Alliance

MOOC – Massive Open Online Course

MVP – Minimum Valuable Product

nPVR - Network Personal Video Recorder

NSA – National Security Agency

PBCJ – Public Broadcasting Corporation of Jamaica

PBX – Private Branch Exchange

PC – Personal Computer

RJR – Radio Jamaica

SAP – Second Audio Programme Channel

TVJ – Television Jamaica

UWI – The University of the West Indies

VoIP – Voice over Internet Protocol

Executive Summary

The Conference on "The Future of Media and Regulation" was hosted by the Broadcasting Commission of Jamaica on April 8, 2014 at the Jamaica Pegasus Hotel in Kingston, Jamaica. The selected theme for this conference was "Explore innovations, emerging trends and challenges in a rapidly transforming media and entertainment landscape." The conference intended to bring together key stakeholders to increase the levels of awareness about emerging trends in the broadcast industry.

The conference had over 330 participants from the broadcast, cable and technology industries. This included 207 participants who attended the Conference virtually through the online streaming facility. Neal Lemlein, a former vice-president at FOX, CBS and Universal Studios, was the Keynote Speaker in the Opening Session of the One Day conference.

The four main sessions were as follows:

- Opening Session
- Panel #1: "Innovation, New Models and Emerging Trends in Content Creation and Apps"
- Panel #2: "Emerging Broadcast Distribution, Transmission and Access Technologies"
- Closing Roundtable: "Key Take-aways and Next Steps"

The summary of outcomes from the one day conference is as follows:

- Digital Switchover is now a high priority and a timeline needs to be set.
- There needs to be more inclusion of persons with disabilities, including the introduction of SAP and closed captioning.
- There should be continued encouragement and empowerment of young innovators such as those who presented at the conference.
- The issue of Anti-siphoning legislation requires consideration
- Digital literacy initiatives need to be bolstered.

Conference Agenda

Time	Activity
8:30a.m.-9:00a.m.	Registration
9:00a.m.-9:10a.m.	Opening and Introductory Remarks: **Professor Hopeton Dunn** *Chairman, BCJ*
9:10a.m.-9:20a.m.	Welcoming Remarks: **Sen. The Hon. Sandrea Falconer** *Minister with Responsibility for Information*
9:20a.m.-9:25a.m.	Remarks: **Brian Schmidt** *Vice-Chairman, Media Association of Jamaica*
9:25 a.m.-9:55 a.m.	Keynote Address: **Neal Lemlein** *Former senior executive at FOX, CBS and Universal Studios; member of the Academy of Motion Picture Arts and Sciences; associated with block buster films such as Star Wars and Hunt for the Red October.*
9:55a.m.-10:30a.m.	**Discussion and Q & A (Speaker and Audience)**
10:30a.m.-10:45a.m.	**Coffee Break**
10:45a.m.-11:50a.m.	**Panel # 1: "Innovation, New Models and Emerging Trends in Content Creation and Apps"** *Session Chair: Karlene Johnson, Asst. Executive Director, BCJ*

	Panelists:
	• **Kenia Mattis and Roshaun Clarke**
	  ListenMi Caribbean Ltd. - Online TV content developers
	• **David Soutar**
	  Designer in Residence, Code for the Caribbean; Lecturer in Digital Media Production, CARIMAC, UWI
	• **Jamar Thelwell**
	  Creative Technology Specialist
	• **Chevonnese Chevers Whyte**
	  Specialist in Graphic Design & Electronic Publishing; Lecturer in Digital Media Production

11:50a.m.12:25p.m.	**Discussion and Q & A (speakers and audience)**

Time	Activity
12:25p.m.-1:55p.m.	**Lunch**
1:55p.m.-2:45p.m.	**Panel # 2: "Emerging Broadcast Distribution, Transmission and Access Technologies"** *Session Chair: Neville James - BCJ Commissioner*
	Panelists • **Noel Ellis,** *Adjunct Lecturer - Mona School of Engineering; Chief Engineer - RJR Communications Group* • **Carlton Baxter** *Cable TV & Broadband Telecommunications Specialist; VP, Engineering - Columbus Communications* • **Patrick Lafayette** *Broadcaster & Pioneer in the use of Digital enabling technology*
2:45p.m.-3:15p.m.	**Discussion and Q & A (speakers and audience)**
3:15p.m.-4:15p.m.	**Closing Roundtable: "Key Take-aways and Next Steps"** **Session Chair:** **Prof. Hopeton Dunn** **BCJ Chairman**
	Panelists: • **Prof. Anthony Clayton, BCJ Commissioner** • **Dr. Elaine Wallace, BCJ Commissioner** • **Neal Lemlein, Keynote speaker**
4:15p.m.-4:30p.m.	**Closing remarks**

Summary of Presentations

Opening Session

Session Chair: Mr. Cordel Green, Executive Director, Broadcasting Commission

- **Opening and Introductory Remarks:** Professor Hopeton Dunn, Chairman, BCJ
- **Welcoming Remarks:** Sen. The Hon. Sandrea Falconer, Minister with Responsibility for Information, Jamaica
- **Remarks:** Mr. Brian Schmidt, Vice-Chairman, Media Association of Jamaica
- **Keynote Address:** Mr. Neal Lemlein, President, Around the Bend Media

Chair's Opening: Mr. Cordel Green, Executive Director, Broadcasting Commission of Jamaica

Mr. Green opened the session indicating that the gathering was intended to consider the theme "The Future of Media and Regulation". It would be delusional and over-ambitious to expect that such an expansive conference theme could be covered adequately in one day. The theme should therefore be viewed as aspirational and indicative of a continuing dialogue.

Opening and Introductory Remarks: Prof. Hopeton Dunn, Chairman, Broadcasting Commission and Director, Caribbean Institute of Media and Communication (CARIMAC), UWI, Mona

Prof Dunn welcomed the gathering. The conference is intended to deliberate on important issues of the new digital economy: technology, content creation, distribution, innovation, regulation and public policy in Jamaica, and globally. This discussion is critical to inform planning and regulation for Jamaica's digital future given that creativity is being seen as a credible pursuit for economic development. New areas such as Digital Design, Animation and Game design are areas in which we should be taking an interest. Also, training in these areas is increasing.

Thoughts on the Future of Media

In our culture, media are widely available allowing for a steady stream of content on our technology tools anywhere and at any time. This has been influenced by the miniaturization and portability of digital media devices which can be adapted to our needs.

He spoke of the internet of things which is the network of inanimate objects around us which can adapt content to our day to day lives. The number of IP-enabled things exceeds the number of persons connected to the internet.

News is coming to us in new ways through the mobile phone and websites. Traditional news outlets are no longer the first to report the news and in many circumstances we are seeing an up-ending of the way media operated.

Regulatory Treatment of Special Content

He spoke next to the regulatory treatment of special content. The public has an interest in accessing some types of special content and special events, such as FIFA World Cup and The Voice. Broadcasters acquire exclusive rights for such content sometimes on subscription or pay per view services. The public interest can be undermined by exclusive control of such content if it is limited to subscription based services. BCJ is of the view that a mechanism must be found that balances commercial interests with the public interest in this regard.

The Commission has written to the IOC to find out their policies in relation to this. We have done research on policies which can address this practice which is sometimes referred to as Siphoning. Some countries are generating a list of relevant events and legislating on the availability of content from these events. Countries with existing arrangements include the United Kingdom, Australia, Singapore, Belgium, Austria, France, Finland and Germany.

He concluded by asking the audience to consider what the future of media and regulation would be as the technology and the business models change. Engagement and participation in the conference was encouraged.

Welcoming Remarks: Hon. Sandrea Falconer, Minister of Information, Jamaica

Minister Falconer indicated that she was pleased to welcome participants to the conference. The conference invites everyone to explore the new technical features, trends and opportunities in the future of broadcasting. From this effort we will have a better understanding of the media in the businesses of the industry and their challenges.

Be Nimble and Ready to Adapt

As we look to the future we must equip ourselves with knowledge, be nimble and ready to adapt to the transitions. Mr. Lemlein's Keynote would set the pace for the day's discourse and for our futurecasting.

Companies should view change as a constant opportunity to evolve the business. The regulator must not only be cognizant of the changes in the environment but also facilitators of this process – enabling and encouraging competition without affecting the viability of the electronic media industry.

Regulatory and Policy Steps

The industry finds itself having to undergo continuous assessment as to its relevance, necessity and adequacy in an evolving digital space. We continue working to ensure that the needs of the consumers of content are served.

There have recently been consultations on the development of Jamaica's Electronic Media Policy as an enabling framework for the new media landscape. Transformational and legislative changes are programmed for this year. Also, she will be forwarding, for Cabinet consideration, the recommendations of the National Digital Switchover Committee. The Committee was co-chaired by Professor Hopeton Dunn, Mr. Lester Spaulding and Mrs. Winsome Witter.

She closed by wishing for everyone a productive Conference.

Remarks: Mr. Brian Schmidt, Vice Chairman of the Media Association of Jamaica

These are exciting times in terms of the changing ways in which we interact with each other and with devices. This has a profound effect on the way we live and how we communicate. There is a notion that this is an over messaged and under communicative world. But there are opportunities for us to grab, and this conference is forward thinking and necessary within our current framework. We recognize the symbiotic relationship between technology and media platforms that did not exist before. What becomes important is that we understand appropriate technology, appropriate use of technology, the economics of using technology and our readiness as a society and practitioners to use the technology.

Introduction of the Keynote Speaker: Mr. Cordel Green

Cordel Green introduced the guest speaker as a marketing genius and one of the most dynamic entertainment executives of the 20th and 21st centuries. He is a career coach and author of the book *Pilot your Career.* He has worked in marketing at FOX, CBS and Universal Studios. He is currently the President of Around the Bend media.

Keynote Address: Mr. Neal Lemlein, President, Around the Bend Media

Neal Lemlein has had 30 years of experience in media. He noticed that changes in the industry have been most dramatic in the past 5-10 years with a general upheaval in the media marketplace.

The Future of Television

Traditional television is alive and well. It is seen as the connective tissue of all successful media campaigns due to its broad mass audience, its segmentation ability, reliable audience delivery analytics and the possibility of rapid and expansive message dissemination.

There have been changes in how content is delivered and consumed but reports on the demise of traditional television are premature. According to *Adweek* there are 283 million Americans who watch an average of 146 hours of television monthly. For online content, 155 million watch an average of less than 6 hours per month on mobile and less than 6.5 hours on the web. This represents less than 5% of industry dollars. Online video is now a supplementary source of entertainment for many. Also, audience analytics for online media have yet to be acceptably developed. This void will soon be filled by Nielsen with its new "DPR" product.

Mobile is critically important to the future of digital media with 1.15 mobile connections per consumer in the US and 60% of Americans accessing the internet on their mobile phones. The increasing number of users drives mobile content usage, games, social media and video. The expansion of mobile is also evident in the developing world where it is estimated that three quarters of the world's 6 billion mobile phones are in the developing world. Tablet ownership is also increasing (39% for the US). Mobile is now the centre piece of the digital arena.

Services such as Netflix, Showtime Anytime, and HBO GO, combined with the rise of "binge viewing" fuels mobile viewing of content. In spite of this, traditional television still dominates customer choice. Those receiving free TV are only roughly 10% of the US households, cable is about 47%, Telco service is about 10% and satellite is roughly 33%. Fifty per cent of viewers tape shows so they can skip ads on playback. But on average, only 12.5 hours per month are spent watching "time-shifted" television. TV remains the most popular, content-based media platform but digital video viewing is on the rise.

Convergence, according to Henry Jenkins is "where old and new media collide". It refers to the bundling of different forms of old and new media and even the bundling of characteristics within companies. Greater audience involvement through social networks has increased the viability of traditional television and viewers are increasingly using at

least one other new media device while watching television. There is greater availability of quality television content and so more time is being spent in front of the screen by viewers. Digital video streaming services such as Netflix are becoming more popular and in some cases benefitting from high quality original video content (such as House of Cards). More recently Amazon intends to ride the herd with its upcoming "Fire" product, hoping to control the entire process of creation to consumption as they did for e-readers and e-books.

On the services which exist, movie offerings are usually dated and limited. There is no equivalent to Spotify that would allow the viewer to pay a single fee and then stream whatever video content he or she would like.

The Future of Radio and Print

In relation to broadcast radio, it has been a steady and reliable component of the media landscape with news, music and talk formats. There are approximately 245 million listeners in the US. More options and variety have led to listener fragmentation. Traditional am/fm radio is still the most popular. This is followed by custom streaming sites such as Spotify, then laptops, mobiles and PCs. There are also free-to-consumer services (such as Pandora) based on advertising models. In general, digital listenership will continue to grow and is projected to increase 35% by 2017.

In relation to print media, the industry is in very rough shape. For magazines, their strength is in segmenting audiences by age, gender and lifestyle. In 2013 newsstand sales fell 10%. Declines have been caused by consumers going online instead of using the print version. Magazines have been seeking to remain relevant with mobile and online versions, but the uptake for these is slow.

Newspaper decline continues for over a 20 year span. There is a decline in the number of Americans who read a daily or weekend paper. The number of publication closings is up. Newspaper ad revenues are down. Those newspapers that remain seek digital partnerships to remain viable. Many of the remaining papers are offering digital pay plans. The *New York Times* leads the way in this regard with new digital product packages. The digital shift will continue for print media as the companies will have to seek ways to increase publication revenues. Both print and radio are re-inventing themselves for sustainability.

Futurecasting

The future of media will consist of both broadcasting and narrowcasting. Marketing imperatives will continue to require mass reach capabilities of TV. Personal subscription services, which are being proposed by Dish Network, represent a possible road for the future. TV will be tailored to individual tastes in flexible pricing packages with wider

choices of content. Players will include Direct TV, Sony, Dish Network, Verizon, Apple and Amazon. They are in active negotiations with content providers. Personalized content will be able to run from any screen (TV, PC, tablet, etc). DVR in the cloud may be around the bend. Plans will be customizable and consumers will be able to build their own channels. This may end up cheaper for the consumer who will not have to pay for many cable channels they do not use. Content producers may circumvent the system and market to consumers directly.

A possible disruption is Aereo which provides broadcast television without network consent and without paying any re-transmission fees. It allows for time-shifted content which can be stored in the cloud. It circumvents copyright restrictions. Aereo is currently facing an injunction and the matter is being reviewed by the Supreme Court.

Regarding media business, the only constant is constant change. Previously unlikely partners are now courting each other, including Comcast's acquisition of Time Warner and its deal with Netflix.

On Content Regulation

In the US, FCC regulates indecency because "broadcast media have established a uniquely pervasive presence in the lives of all Americans" and they are accessible to children. But with increased fragmentation, this assertion is now questionable. The relevance of the regulator is in question given that there are few limits to exposure. There is a need to expand regulatory frameworks as content delivery forms expand. There needs to be study on how regulation should proceed into the digital age. We should be concerned with protecting the most vulnerable and impressionable audience – the children. There will be more responsibility on parents and the education system in helping children to understand responsible media use and self-government on the internet. They should be empowered through media literacy.

In relation to transborder limitations on content affecting Jamaican consumers, reasonable reconciliation is needed to see where legitimate access can be allowed.

He concluded by noting that it is an exciting time for media and broadcast professionals. Media companies are looking for young entrants who live the art, practice the art and will not just react to change but also lead industry change within the current framework.

Questions and Answers

Cliff Hughes asked the Broadcasting Commission if there is a response to Neal's assertion regarding the new regulatory framework given the reality of media today.

Prof Dunn responded that we all have a vested interest in where this goes and the Commission is studying all the time where regulation is headed. Neal is right, media literacy is at the centre of the new regulatory framework and the BCJ has been leading on a big project on media literacy with the Ministry of Education. This is becoming an important part of what regulators do in the future. We are creating audiences which are more sensitive. Parenting is important but it may not be the same type of parenting that we have in all segments in Jamaica. There is an entitlement for the regulator to continue to protect the interest of the children.

Mr. Green added that heavy handed regulation and regulation of the internet are not desirable. But BCJ will not be a passive bystander but continue to monitor content and carriage. The Commission will continue to have a role and continue to be relevant.

Marcia Forbes asked for a clarification regarding the regulation of special content. If the regulators deem it as important for critical events to not be acquired exclusively, and with rights fees the way they are, if it is decided that broadcasters cannot afford to acquire rights if it cannot be exclusively acquired, how will we get the content to the masses who are clamouring for it?

The response from Prof. Dunn was that it is not that the content should not be acquired by one broadcaster. But we cannot have for example the Boys and Girls Champs and the Olympics available only through pay per view. It does not need to be distributed across numerous channels, but free to air is what we expect in relation to major and critical events. If this is not going to be the case the regulator will recommend legislation to identify a narrow list of applicable events.

Cordel Green noted that this is a principle about trying to contain bottlenecks and providing equitable access.

Will the regulator be policing the internet, for example copyrighted material on Youtube and other smaller streaming sites?

Mr. Lemlein responded that is a wide open subject without a consensus of opinion. The internet is a new frontier for media development and for regulation.

Mr. Green responded that the jury is still out. There are broadcast-like services emerging and these have to be examined and may come in for regulation but it will be a different type of regulation.

Lemlein stated that for many the internet is a sacred ground that should not be regulated.

Brian Schmidt said this is also of concern to broadcasters since Irie FM suffers from pirate stations in many markets in the world, including Florida, Africa and Japan. This re-broadcast without permission is a key concern for content providers.

One participant stated that there are measures available that can mitigate these types of piracy. He went on to ask what laws regulate DVR in the cloud – would there be problems if one wants to share the DVD content with a friend?

Mr. Lemlein stated that there are services being developed where you can purchase a video to watch for a time frame but he has not heard of sharing content with friends. But cloud based time shifted viewing is coming.

Chantal Hylton Tonnes of the Creative Production and Training Centre said that while we discuss the issue of products and programmes the public should have access to, future considerations should include the monetization of such products. Commercial funding is needed for the cultural and educational local programming. We create a lot of positive content but the free to air stations will not take it. For example, Hill and Gully Ride makes more overseas than here. We need to work with the businesses to see how this can be done.

Minister Falconer responded that the regulator cannot force broadcasters to deliver more prescribed content since there is already time made available for government broadcasts. Maybe we need to find more creative ways, maybe using the PBCJ. We have to look at the media business's survival and profitability as well.

Prof Dunn wanted to clarify that the first port of call is commercial negotiation of rights. Where this breaks down or where the public interest is threatened the regulator comes in so the market remains a viable one.

David Soutar commented that there are current Digital Rights Management frameworks that allow for sharing music and video. For example, Apple and other companies can allow sharing a digital copy for a finite number of times. Barnes and Noble e-books can be lent and you cannot read it while the other person has it.

Mark Reynolds commented that it makes no sense to consider enforcement, since we have to consider the personal space of the consumers. This is becoming of particular concern and in the US the 1st, 9th and 14th amendments have been overarching rights. In Jamaica the Data Protection Act is on the way. But how will we navigate the future of regulation when there are personal rights that will make legislation moot?

Mr. Lemlein responded that this will have to do with judgement and it will come into the mix of topics that will come under discussion. There will be some form of regulation and it will be an ongoing fight.

Mr. Green added that all across the world personal information is becoming the most valuable traded commodity. Rights are being entrenched and re-defined. In Canada there is a privacy commissioner, for example, as obtains in Europe and other parts of the world. We will have to look at new and emerging digital rights which are beyond the cyber security legislation that exists now. The sacredness of the internet is embraced but as it integrates into our lives, issues of privacy and protection are important.

Prof Dunn commented from the point of view of a citizen noting that what we ask as citizens now is, "What privacy?" Rights are being infringed in relation to personal information. Anything you do on the internet you can assume that it is accessible elsewhere as we see in recent cases and international cases. We need to be part of the public education on the limitations of rights, even as we do not ignore the requirements of this age. And we understand that the Data Protection Act ought to come on stream, running parallel with a technological invasion of privacy all the time.

A participant commented that we should consider the protection of children and re-consider passing the responsibility on to children when we have educated them. But we should focus the responsibility back on parents and not so much the regulators and content providers. So many parents buy the devices and the earplugs so they do not know what content the children are accessing. There needs to be a balance between regulation and the internet as broadcasters are losing money to the internet providers.

Prof Dunn said this was an important point. The role of the regulator is not a substitute for parenting. Media literacy should also be about parenting education. There should be a combination of parenting education, media literacy of kids and maintaining some regulatory protection.

A final query online was why the conference could not be accessed on an IPad. One participant responded that it was in fact accessible via the Ipad and that he was doing so.

Panel #1: "Innovation, New Models and Emerging Trends in Content Creation and Apps"

Session Chair: Ms. Karlene Johnson, Assistant Executive Director, BCJ

Panellists:

- Ms. Kenia Mattis and Roshaun Clarke, ListenMi Caribbean Ltd.
- Mr. David Soutar, Designer in Residence, Code for the Caribbean; Lecturer in Digital Media Production, CARIMAC, UWI
- Mr. Jamar Thelwell, Creative Technology Specialist
- Mrs. Chevonnese Chevers Whyte, Specialist in Graphic Design & Electronic Publishing; Lecturer in Digital Media Production

The chair, Karlene Johnson, opened the session noting that the experts on the panel are at the forefront of innovative digital media

Ms. Kenia Mattis and Roshaun Clarke (aka Bay-C of TOK), ListenMi Caribbean Ltd.

The presentation looked at the future of content from ListenMi Caribbean and a musician's perspective. Content is text, images, sound and data. The present formats are TV, radio, internet and public.

THE FUTURE OF CONTENT IS PERSONALIZED BY EVERYONE IN EVERYTHING WE DO.

In other words you are in control of your content and the content is directly controlled by you. In the future everyone is a creator/ producer. The key characteristics of content in the future will be: mobility, choice and real time.

Personalized

Kenia, who presented virtually by live and recorded video (since she was in Tanzania at the time of the Conference) said that there is now only an audience of one - that is "me". We can choose what we want to watch and listen to, when and how we want to. And we can share the content with persons we think it will be relevant to.

In the mobile world life is short for example in 140 character tweets. There are 140 character novels (#140novel) which are mini and micro novels. So it is about consuming content on the go. We can package our experiences in this short form. Choice makes it easier as well – the audience can select what they want and advertisers can choose their target more easily as well. The technology captures information on your life so that informs the advertisers who will target you.

With smart TV you are in control. IView has a product which has in the background Video IQ. The devices collect information based on your preferences and the ads you get will be informed by that. Mass advertising will change and specific messages will be created for specific groups.

By Everyone

Within this framework, content will be personalized by everyone. There is no need for a big budget to create your content and you can personalize your creation. Kenia's pre-recorded part of the presentation was done on her phone. In the future, everyone will be a producer. Content will be customizable, eg. the context of a song can change the content. Mash ups will be more dominant in this framework with shared ownership of the content. Collaborative efforts such as HitRecord benefit from the inputs of many artists to create content. Compensation is shared among the team. When you add open source to this equation then there is innovation, i.e. cool stuff coming out. There is also the philosophy of "copyleft" which is about sharing the content without the usual copyright restrictions. Wikipedia is a part of that concept.

ListenMi News is an example of innovation that mixes the world of education and entertainment. A demo of Listenmi News was shown.

In Everything

Personalization of media will be in everything on the internet of things. We will be able to create, store, share and convert our experiences to data. There will be intelligent platforms, and wearable technology. Things will know what you like and everything will be connected to the internet such as your wall, TV and wearable technologies. These objects, not just our phones, are becoming smarter.

By 2020 there will be 7.3 billion smart phones, PCs and tablets. There are 26 billion items on the internet. Objects can now create, store and share data about us. When this is personalized in a way that makes sense to us that adds the context. For example, your refrigerator will be able to log how many beers you removed from the fridge and your garbage can will log how many you dispose of. Your car will be able to will ask you if you are sure you want to drive. The data will be seamlessly connected across all these platforms.

Now when the content is you, how is that regulated? What about issues of privacy?

Roshaun concluded by repeating the main points of content being personalized. It will be created by everyone; it will be in everything and integrated into everything.

Mr. David Soutar, Designer in Residence, Code for the Caribbean; Lecturer in Digital Media Production, CARIMAC, UWI

David Soutar's presentation was titled "Empathy and Failure in Design Research". He is a lecturer at CARIMAC and supervises undergraduate students in Digital Media Production. He is a Co-founder of Slash Roots which works with the government to identify solutions through technology using ethnographic research and human centred design. They recently completed a six month project with the Ministry of Agriculture with the objective of tackling praedial larceny. Two pieces of software were developed. The first is the Harvest API which uses existing information in the government to allow hackers and developers to create their own applications using government data. One of these applications is Clip which assists the police with identifying stolen produce.

Research Process

In terms of the research process, he has been working at Slash Roots and along with undergraduate students towards the creation of applications to tell you where your nearest police station or fire station is. They have been developing digital magazines and video games.

Empathy is the first part of the research process, for example, empathizing with the customer who has to wait in long lines at the tax office. The technology is the easy part. Understanding exactly what your user wants and needs is the hard part. In the research process the team starts with empathy through interviews and synthesis. This is distilled into actionable ideas.

So the research assistants in this project experienced first-hand the problems farmers have. They had to ask the hard questions, the ones that make the farmers uncomfortable. But they can really be honest with you if you have an emotional connection. This is why empathy is important. In some cases your users may have figured out a solution already. This will give insight in how to attack the problem yourself.

In the process of synthesis, post-it notes explore the problem space. Every observation from interviews became a yellow post-it note. When the same observation occurs over and over again – that is a pattern - it becomes a pink post-it. This helps you to understand the problem space. An ecosystem map is created to get a better picture of the problem and how big the problem is. You would need to figure out how they solve their own problems and what technology is already in use. Then you will develop a series of categories of user profiles. And this will give you a profile of who you are creating the software for. You will understand their motivations and feelings. Mr. Soutar demonstrated an example of an ecosystem map.

Failure

Soutar recommends that developers fail fast and cheaply and fail early in the process. Failure is part of the development strategy. Through failing you are exploring the solution space. There are many possible solutions to the problem space. So we create a low fidelity prototype. Use post it notes or paper and ask the potential user to hold it like a phone. You are going for the MVP - Minimum valuable product - which is the least amount of money for the most value.

This is used by Software developers and animators to save millions. For example, in animation an animated storyboard or animatic is used to get initial feedback on animation ideas. In film, previsualization is used, using crude 3D models to act out the entire movie. This wastes less money. Conversely to this is a pilot which involves budget, cast, crew, etc. They are moving away from these models and going straight to series.

In summary, learn from failures and put it back into your process and go through the necessary iterations to perfecting the product until you have something that is viable.

Mr. Jamar Thelwell, Creative Technology Specialist

Jamar Thelwell spoke on the topic "Innovation and Emerging Trends in Digital Media: The Promised Land of New Media." The presentation was intended to discuss new approaches to content creation including apps and comment on how these will affect human resource requirements of media. Computer technology has given birth to new forms of media that are digital, networking, interactive, dense, compressible and impartial. In the future, technological development will increase in velocity. This will widen options for individuals and enterprises.

Human Computer Interaction

Human computer interaction (HCI) or haptic technology is one such area. Some people now have an emotional relationship with their computers. Haptic technology provides physical sensations and feedback from computers.

The first example is the Autoemotive smart car which will know how you feel each day. It will know how you feel when you have drunk too much liquor. He screened a video from an MIT smart car project. The smart car will know you from face recognition and will figure out your stress level from sensors in steering wheel and your facial expression. We will be able to quantify stress levels in cities. It will turn on the headlight for you if you forget to turn it on. It will be able to wake a sleeping driver or identify a driver in distress by making noises.

Feelable TV

There will be interactive or "feelable" TV where people will be able to watch TV with their fingers. The TV would give us touch stimuli through vibrations and otherwise. You will be able to feel the different textures on TV. For example, you will be able to hold the ball in the World Cup. If you do not have enough processing power you will not be able to access these things.
A second video was shown on feelable TV.

Cloud Computing

Cloud based systems for media and content publishing drive real time content generation. Itunes/Icloud is the most popular of these services in the US. Then Dropbox and Amazon Cloud drive.

Rich Media

Rich media consists of any combination of graphics, audio, video and animation which is more storage and bandwidth intensive than ordinary text. Apps are becoming smaller and more targeted. Content is optimized on multiple devices. They are piggybacking off existing apps to create an ecosystem such as the Harvest API that Mr. Soutar spoke to earlier. Rich media will become more prevalent.

These emerging trends will be facilitated by preprocessors, Javascript, single page web applications (or web responsive apps), mobile web apps, android (open source interface which is cheaper), web interfaces and node.js.

Human Resource Issues

There is a change in the jobs in this new media environment. HR persons will have to look at how jobs are becoming merged. Companies will be taking on persons with several media production skills rather than just one. They will only be hiring an individual unit as opposed to several bodies so this is cheaper.

Jobs will change. New jobs will be created. You should know all trades but be master of one. Among the jobs are user interface designer (they conceptualise the user experience, aiming for uniqueness), creative technologist (who knows design and coding and is the middleman between the different creative persons) and interactive product designer (who builds the product and decides how users interact with the computer).

Be Creative

He encouraged creativity among audience members and said they should use their brains because anyone in the room can be the "ït" person through exposing their ideas and being

creative.

Mrs. Chevonnese Chevers Whyte, Specialist in Graphic Design & Electronic Publishing; Lecturer in Digital Media Production

Mrs. Chevers Whyte spoke on the topic "Emerging Trends in Digital Media and the Future of Print". In terms of international trends, content marketing is a key area. Content marketing is about finding out more about the audience and tailoring content to meet audience needs. Other news trends include digital magazines and papers, mobile apps, podcasts, social media and websites. She wondered if these trends apply to the local market.

Reaching Pro-sumers

We are moving away from a product based industry to a customer based one with more customizable media products. Media consumers are increasingly becoming pro-sumers – these are consumers who design or customize media products for their own needs.

You want to get pro-sumers involved in our media products and tailor content for them. But you have to know the pro-sumers before you can connect with them. You need to be a psychic and anticipate the pro-sumers' needs before they know what they want. So you should constantly study your audience, knowing, for example, who and where they are and what they are talking about and how they connect with media.

Mini Survey

A mini survey was conducted to find out if Jamaicans are interested in media, their main source and preferred method for information. The 62 respondents ranged in age from 18 to over 45. For local news respondents went to local TV, newspapers and online news sites. For local politics persons were going to local TV and then newspapers and then to a lesser extent online news sites and radio. For local gossip it was Facebook and face to face conversation that was the main source.

Local TV and online news sites were preferred sources of information for local news, Facebook and face to face conversation for local gossip, and local TV and online news sites for local politics. The highest levels of interest in all areas came from the 25-34 age group (described as the power group). There is a misconception that young people are not interested in the news. This trend is also international where in the UK a think tank was conducted that found that young people want to know what is going on around them but they want it where they are. Content should be created in a more modular form. A working example of what could be developed is the BBC iPad app which is customizable.

Managing the Online Presence

The website remains the backbone of your online presence but you use other forms (eg social media) to find young persons where they are and to interact with them.

For Pix 11 their website is the backbone of content and the main source of information while they still have a social media presence as supplementary. In Jamaica we have digital magazines (eg, the Jamaican magazine, Tallawah Magazine). We have mobile apps from the *Observer* and *Gleaner*. News videos are on Youtube from TVJ and CVM. This is good for people who do not watch local television.

Challenges in Print

Print is declining but not dead. It is still relevant but we need to focus on our consumers and pro-sumers and to tailor the content to their needs. We need to do more research on these consumers. Success for print media is found through brand partnerships with electronic and new media. If you look at the milk industry in the US, they launched a marketing campaign around milk and the milk industry has not died. We need to remind people of the joys of print and come up with shelf-worthy content. Digital and print media can coexist. They are complementary but not mutually exclusive. Each has its unique advantages but if we are delivering quality content the audience will come to you. More surveys and studies should be done to understand the con/prosumer.

Questions and Answers

Patrick Lafayette commented that the video did not do anything for him since he is a blind person. Presenters should be communicating across the board.

A participant commented that none of the speakers charged the Broadcasting Commission to do anything. Many of the areas discussed are outside of the ambit of their control. Also Ms. Chevers Whyte spoke to the fact that she doesn't watch local television. Many conference participants are producers of local content and we are discussing the regulation of local media forms so he was not seeing the synergy.

Ms. Johnson commented that the theme of the conference is the future of media and regulation so this panel is meant to explore what developments may need to be regulated in the future.

Ms. Chevers commented that she doesn't watch local TV but she does keep up with the content. She is able to follow online and on social media. It is not the content that is not being used it is the medium.

Soutar commented that he has never owned a television is his life but he still visits media every morning. There are more people who do not have a television at home. It does not mean that they do not consume local content.

Jamar added that because the technology is new, Jamaica will need access to these new types. For example, Mr. Lafayette spoke to being blind, the visually impaired have an issue with TV because they cannot identify with the content. Innovations are leading for Jamaica to actually go there.

Roshaun commented that he understands where the speaker is coming from. ListenMi is trying to be creative and trying to be new. Kids are not engaged by the current format of the news so ListenMi is showing the same credible content but thinking of creative ways to convey it. Music is one of the key ways to educate people. The audio can be extracted as a stand-alone and it is being played on radio. They would like to bring in interpreters to make it creative. He also doesn't have a TV at home. He chooses not to watch TV because he does not want to be influenced by his fellow artistes. It is not good or bad, it is just a preference.

Another participant said that she loves listen mi news. She wanted some more detail on the success of that innovation, the viewership and the returns.

Roshaun responded that it is a learning experience. They started October last year, they are now on more platforms and are even being approached by international distributors. It has grown so far. The challenge is in getting financial support when they are creating. They have to be creative about how to get the budget when needed.

Kenia said that what they have found is that sponsors are buying into the audience so you have to build your audience. The true measure of your content is the size of your audience. So they put it out there and see interesting trends in different countries when it is relevant to the country. That would determine your sponsors.

Allison Brown commented that the media are becoming more personalized and consumers having more choice but possibly there is an illusion of choice since leading search engines such as Google and Bing are owned by converged media entities. This has serious implications for content that may be marginalized in terms of getting to the public.

Kenia responded that choice has to do with what "I" want to do. One layer of choice is discovery and another layer is what you choose to watch having discovered it. Search results are dependent on algorithms. A lot of what you choose to consume is influenced by referrals. Your social media group influences what you are most likely to watch. But you don't have to wait for a deejay to play the next song. The illusion is there but if you continue

to surround yourself with the internet of things, predictions will be perfected over time as your social group and other factors influence the algorithm.

Wentworth Kelly commented online that we have to be adaptive to the fact that some people are not watching local TV and reach the people where they are.

Claude Robinson asked more about the praedial larceny project and what are some of the practical uses.

David Soutar said that it started around the concept of building a community of hackers for more social engagement to use expertise to solve national problems. So the Ministry of Agriculture has made relevant data available so that hackers can use the data to create their own applications. One application will predict your market bill before you go to coronation market. One app will tell you in a 10-20 mile radius who sells yams so you can circumvent the market. This can be used further to predict crop yield. The possibilities are endless.

Michael Edwards asked if the decision by Chevonnese not to watch local television was a vote against local content or is that she does not use that particular medium.

Kenia said that it may be not just Chevonnese but a profile of persons.

Jemar said that it is not that she has something against local TV. She may not have the time. Jemar spends most of his time in front of his computer. He does not have the time to devote to local TV. Also it is influencing your creative products as Bay-C said.

Chevonnese responded that the content of Pix 11 is targeted at her age group with shows like Supernatural. She says she is usually in front of her computer or in front of her baby.

Kenia said she has nothing against local TV but she prefers to get her content on demand. She does not want to be a slave to time.

David said that his computer allows him to log what he wants to watch later and all the TV shows that he likes. He can watch this when he wants to. This will be the dominant for a specific age group.

Another participant commented that only about 23% of Jamaicans have internet at home so the power group you are talking about is not representative of Jamaicans. Most Jamaicans still get their content from broadcast and cable. There is a variety of platforms and the majority of Jamaicans are not necessarily is represented by the panel. We have to support local content because that is what most Jamaicans are watching.

The session chair commented that with media becoming more personalized we will see these things becoming more dominant whether on new media or on conventional media.

Chantal Hylton Tonnes commended Chevonnese for stating a simple truth. Ms. Hylton Tonnes worked in marketing in broadcast media. Many of the persons that work there do not watch local television. There is no obligation as Jamaicans to watch local content. Broadcasters need to get into the mind and heart of consumer and know what they want. FTA needs to be more creative to find out what will get Chevonnese to watch. The guest speaker says there is still a space for free to air, eg The Voice. That was appointment TV. Free to air is enjoying some success and with 1.2 million watching night-time news that is excellent. New media should not cause broadcast to retract. Use the consumers to help you find the content that they want.

Panel #2: "Emerging Broadcast Distribution, Transmission and Access Technologies"
Session Chair: Neville James, BCJ Commissioner

Panellists

- Noel Ellis, Adjunct Lecturer, Mona School of Engineering; Chief Engineer, RJR Communications Group
- Carlton Baxter, Cable TV & Broadband Telecommunications Specialist; VP, Engineering, Columbus Communications
- Patrick Lafayette, Broadcaster & Pioneer in the use of Digital enabling technology

Noel Ellis, Adjunct Lecturer, Mona School of Engineering; Chief Engineer, RJR Communications Group

He is a teacher and the chief of engineering at Television Jamaica. The views expressed are not necessarily those of TVJ. We find in media organizations that sometimes we make proposals about improving our quality of service and then the accountants will ask about cost and revenue.

Access and broadcast distribution is a wide subject. He decided to look at access first and from there to make an assessment of where we are going. He took a snapshot of what everyone was doing at his house one evening while being entertained. His daughter was watching My Little Pony on the desktop, his son was watching Mythbusters on Netflix on the tablet and his wife was watching HGTV on Flow. It brought up an interesting point about how people are accessing content when just at home and being entertained.

According to Sandvine in North America, video from Netflix and Youtube accounted for 50% of fixed internet traffic. 23% of mobile internet traffic was from one of these sites. In Latin America, 39% of internet traffic is from one of these 2 sources. In a few years, Netflix will be taking over in terms of internet. According to Alexa for the most popular websites in Jamaica Google.com.jm is number 1, Facebook is 2, Google.com is 3 and Youtube is 4. Jamaica Observer is the highest ranking local website at number 10. Netflix is number 62. The major market segment for online content is 12 – 24 years. Today's 12-24 is the power market of the coming period and so more of our content will be going into online platforms.

2013 was the first year smart phones out sold dumb phones. They have internet capabilities, their screens are getting larger and easier for viewing videos. More will be using content on their phones and "phablets". LIME will be introducing LTE in the Jamaican market and Digicel bought bandwidth in the 700 Mhz typically used for LTE. So even in Jamaica mobile will more and more become the main means of accessing content, and line speed will no longer be a factor. (He showed a part of an ad which showed the issues of bandwidth while watching video). The content now has to be in a digital format to be distributed digitally. A cost benefit analysis for DSO needs to be done and they need to see how they will make back the investment by switching to digital format.

Some key words that we look at are "convergence" and "TV anywhere" and they will soon be able to demonstrate that at TVJ. You will soon be able to watch Smile Jamaica on your TV, laptop, your tablet or your smartphone.

When he was growing up there were three radios in the house and one television. There is no radio in his house now but he has a smart phone with a radio app, 3 computers plus a tablet. We need to more and more consider that content is converging to an internet based platform.

Carlton Baxter, Cable TV & Broadband Telecommunications Specialist; VP, Engineering, Columbus Communications

He presented on the topic: Innovations in IP and Cable Platforms. There has been a common theme throughout the day: we are in a converged network. We know what is driving the demand for bandwidth is how we access media – over the top (i.e. Netflix and Youtube). So how will Columbus meet the demands for increased bandwidth year to year? They are enabling innovation based on the bandwidth demand.

The foundation of the bandwidth for these converged services is a robust transport network. Columbus's undersea network consists of 17,800 km of sub-sea fibre delivering,

voice, video and internet. They have 650,000 customers and multi tera-bit capacity. No other provider in the region has such an extensive network.

The company consists of three pillars – Columbus Network (wholesale data provider), Columbus business solutions (solutions for enterprise customers) and Flow (residential customers). Among the drivers of bandwidth are: the demand for cloud services, bandwidth intensive applications, 3G and 4G mobile broadband, increased broadband penetration and finally government sponsored initiatives.

Over the top content fuels innovation in the IP network such as e-commerce and entertainment services. 61% of internet traffic is real-time entertainment; this is due to the explosion of mobile. There is a shift in consumer behaviour towards real time application in terms of streaming and other forms of video. Mean monthly bandwidth usage in the US grew by 38% from 2012 and 2013. We expect this trend to continue. We need to innovate in order to meet that demand for bandwidth.

The Columbus response is adaptation with home based platforms and mobility allowing for TV everywhere. An example is Flow to Go – you can access this anywhere. In 2015 they will move from 100Mbps to 300Mbps and in the future they will be up to 800Mbps. The evolved network includes a High capacity HFC Network (Hybrid Fiber Coaxial) which allows for digital video, VOIP and internet service. They offer IPTV- Internet Protocol Television. Other networking factors are GPON- Gigabit capable Optical Passive Network and FTTX-Fiber to the Home. For the long haul they have Ethernet speeds of up to 40Gbps backbone.

On the distribution side they have MoCA - Media over cable Alliance set top boxes, a home network which allows smart devices to be used. He showed some of the set top boxes and also showed how the home network would look. There will be Cloud Based IP Services including, IP Security/ Surveillance, nPVR (or video recording and retrieval in the cloud), business continuity and hosted PBX.

Innovations in IP connectivity will enable growth in business services, government services, entertainment and education. In terms of the stages of broadband development we are at the bottom with mainly social and entertainment uses. We need to expand our usage to e-learning, e-commerce and e-government.

As the Chairman of Columbus noted "We do not predict the future, we enable it."

Patrick Lafayette, Broadcaster & Pioneer in the use of Digital enabling technology

He has been blind since he was 16 and entered media in 1984. He opened by asking media personnel present how much they know about persons with disabilities. They have

influence on decision making and the economy of the household. When you have a disabled person in the household, you will think about them first when you go to the supermarket. The number of persons with disabilities according to our statistics is understated. In the 1991 census, 5% of Jamaicans were reported as having disabilities while the World Health Organization states that on average about 10% of the world's population has a disability.

Visual impairment occurs at all levels and it can affect anyone. Persons with disabilities have constant need for access to news and information. Half the time they do not know what is going on until someone tells them. They do not wish for charity but they want parity. They need proper partnerships with media organizations and those who partner with them such as content providers and marketers.

Technology has levelled the playing field. Blind persons use the computer with the aid of JAWS - Job Access with Speech. This software gives access to just about every application on the computer. A sample is available at www.freedomscientific.com, so if you are interested you should download the demo. These companies know that persons with disabilities need access to communication. Blind persons are using more mobile sources to access media and information services, such as IPad, IPhone, and Samsung. For IOS, the voice over and Siri capabilities are useful and for Android, we use talkback.

Media broadcasters globally have special programming for the visually impaired with some minimum standard being defined. In the US there is a minimum of 50 hours of descriptive content for the quarter. This is applicable to the 9 major channels and cable providers. Descriptive television superimposes audio on the regular audio track. This allows blind persons to understand what is going on in movies and TV shows. The technology is called SAP or second audio programme channel and it is available on a network cable box or on digital TV. Digital Video recorders automatically record SAP for playback. This could also be used to deliver our content in other languages. The list of content available in SAP can be seen at the American Council for the Blind website: [www.acb.org/adp.](http://www.acb.org/adp) Blindy.tv has audio-described content of all genres from Star Trek to Lucille Ball. Mr. Lafayette then played a clip of The Lion King in its SAP version.

For persons with disabilities, independence is key. They do not want to have to depend on anyone else to explain what is happening in the movie. Persons with disabilities are both audience and market. Media should be trying to reach them on both fronts. They are a serious market. And how do mobile apps reach the blind audiences and the millions of disabled persons worldwide who would like information?

SAP and closed captioning should be employed for the visually and hearing impaired. This also contributes to an internationally viable product.

Persons with disabilities should have as much consideration as everybody else. They are tax payers and consumers. Disabilities can happen to anyone. It is an untapped market – the blind, the deaf, the dyslexic and others who have disabilities. Marketers can benefit from considering this market. Accessible content will expand our reach in the Caribbean, the diaspora and the world. Sting was not accessible to the blind, since the audio alone does not do it justice. Along with SAP channels and closed captioning we should also consider the equipment. Think about using a remote if you have a physical disability that affects your grasp. We should think about these persons when we are importing media products for use here.

Voice recognition is a powerful tool since it recognizes everything you say. In local newscasts the news is read from a teleprompter. This same technology can be converted to closed captioning for the deaf. SAP would help blind persons with clips such as riots and other types of news. The voice recognition technology can convert the speech into text as it is happening for the hearing impaired.

DTV is key to the wide deployment of these technologies to level the access playing field for these persons. Digital switchover has to acknowledge that technical provisions should be made for the disabled. This should include a minimum for audio described content and closed captioning. This cannot have persons with disabilities as an afterthought. The Broadcasting Commission now has to look at such provisions. This can also be seen a human rights issue. The untapped 10% needs to have access. It is not just them asking your content it is you accessing them. Persons with disabilities need access and they need it now.

Questions and Answers

Fae Ellington thanked Mr. Lafayette for putting the issues forward in that way. This is a challenge to the TV stations to do something about this. In some way we have stepped backward because once the news used to be signed at JBC. How expensive it is to use SAP or the descriptive programming?

Mr. Lafayette responded that it is not expensive. Digital delivery makes you wide open for many things. 10% of the population is not small and the technology can be utilized in many ways.

Chantal Hylton Tonnes asked the BCJ whether this is something the Commission is considering to be mandated. This segment must be catered to in some way similar to what Patrick says where there could be a minimum amount of descriptive content.

Cordel Green responded that Mr. Lafayette referred to the Digital Switchover paper in which the Commission from 2004 expressly wrote that the digital television switchover project must make provisions for persons with disabilities. BCJ is not reacting to the recent resolve of the government. They preceded all that with their thinking. His speech provides a great opportunity to address the issue. This will find its location in the policy thinking in an accelerated way.

Another participant asked Patrick what would be his one burning desire from digital media for the future?

He responded that the disabled community does not have a voice in this country. It would open a whole avenue if persons with disabilities had their own radio and TV station.

Another participant asked the BCJ to accelerate that for persons with disabilities. Also DSO will assist radio in stamping out payola since the metadata on songs will allow the royalties to be collected. There is another sector that is not getting their due as songwriters, producers and promoters would benefit. It is not just about your corporation Mr. Ellis. DSO needs to be done fast.

Mr. Ellis responded that DSO is something RJR is committed to doing. But it is how the company will pay for it that is the challenge. It has to be done, not only regarding accessibility but also in terms of the technology. We cannot find parts anymore for analogue equipment so it has to be done.

The participant continued that while we linger when other countries are upgrading they are sending the old equipment to Jamaica. Soon everything will be digital and one day you will press a button at TVJ and CVM and nothing will show.

Another participant asked regarding the visually impaired we have a visually impaired government senator. Could he play a role in your dream for a studio or media to cater to your needs?

Patrick responded that the sentiments are appreciated but it will be a process of transfer and then it will be a matter of applying for licence then training. But it would be good because it will be a whole new avenue for the disabled community so it is something to be discussed with the Senator.

One participant asked Mr. Baxter about increasing speeds to 800Mbs. What is the rate of penetration of Flow in Jamaica and what does it mean for us in terms of accessing these speeds?

He answered that the footprint of Flow covers 50% of the total households. In terms of internet penetration he did not have that number but they are seeing a high take up rate. In

terms of internet speeds, enhancements are turning up from head end infrastructure in increments but further work will be needed to get up to 800 Mbps.

Dave Lindsay of Cariblink Digital noted that software called Airfibre can be used to minimise theft of the telecommunication cable. He also raised with Mr. Ellis that he saw where Gary Allen signed a contract with a pay per view channel in Miami. Cariblink offers pay per view service, including recently the Trinidad carnival. This will be a failure based on his experience. Cariblink got 2 million subscribers for Shaggy and Friends. RJR needs to invest in Jamaica. Why do we have to go outside for services?

Mr Ellis responded that he would need to speak to Dave in a more private forum.

Closing Roundtable: "Key Take-aways and Next Steps"
Session Chair: Prof. Hopeton Dunn, BCJ Chairman

Panellists:

- Prof. Anthony Clayton, BCJ Commissioner
- Dr. Elaine Wallace, BCJ Commissioner
- Neal Lemlein, Keynote speaker

Professor Anthony Clayton, Commissioner of Broadcasting Commission

This conference is about the future of media and regulation and so far we have talked a lot about the future of media but not a lot about the future of regulation. The discussions have raised five critically important points for the BCJ.

1. Before when you wanted to know the future of your industry you would have to talk to other people in your sector. That is no longer the case. Disruptive innovations come from outside your industry. With convergence, sectors that we used to see as distinct (and therefore regulated differently) are no longer so. In some countries the mobile industry is the largest provider of banking services. So who has jurisdiction – the telecom regulator or the financial regulator?

2. Regarding privacy, the NSA is interested in meta data and not individual data so much. They are interested in the patterns of communication – who is talking to whom and who knows whom. People got concerned about this as intrusion of privacy not realising that companies such as Google have been collecting this kind of information for years. Google may know more about you than your spouse. There will be some privacy concerns that will become part of regulations.

3. The people who are making the news now are not journalists. Local persons with smart phones tend to be first reporters and post news to the video links. How will this be regulated? Many people will be both suppliers and consumers. Is regulation as we now know it still feasible?

4. Another crossover effect is taking place at the University. Universities do research and teaching. When it comes to research we have competitive advantages, but when it comes to undergraduate teaching we do not. The classroom model is a very costly way to convey basic information. The cost per unit falls dramatically when we go online with courses. The main cost is front end loaded (writing the course) Distribution is coming down to zero cost. Harvard began Massive Open Online Courses (MOOCs) and increased their reach significantly. The courses are free but you still have to go through a paying channel if you want the degree. Many teaching universities will disappear. You would contract international online lecturers. Universities would then be responsible for quality control and grading. Who has jurisdiction in regulation of these areas?

5. Then there are issues of media and biology. There are body implants that will monitor and transmit your biological data. Early signs of degenerative disease can be detected. Some devices have a better diagnostic accuracy than many doctors. We have had hacking of body implants. Who will regulate the security of your health information? Google glass will soon be a contact lens and cochlear implants will also give you the auditory clues and then neural implants will be used. This will raise some fascinating regulatory issues.

We would not wish to control the process of innovation but we have to keep abreast of this because there may be regulatory consequences.

Dr. Elaine Wallace, Commissioner of the BCJ

The speakers have shown us how the world of media is becoming the Internet of Things. It is not business as usual. It is more about understanding and engaging with the media in a more practical way. Business models are changing. There is de-structuring of the industries. Technology is affecting patterns of access and consumption. There is re-definition of the "consumer" as both audience and content provider. We are now beyond convergence to the digital eco-system including media and entertainment. There are new roles, laws, policies, norms and culture.

In terms of the next steps, are we as audience/content providers prepared for the new environment? Are we as regulators prepared? We need to engage in a little learning here. We have to ensure we are educating ourselves and the public.

It is not business as usual. We have to consider the research on new literacies such as media and information literacy. We should aim for a well informed and educated public on these matters. We need this type of education to successfully use the technologies. This should include training on IP rights, privacy, quality of content, access for children. We need to engage on the social aspects. It will be a challenge for the Commission to make this transition, shifting from the mode of reading media to understanding the environment.

There is a basis for considering what we need to do at the government level to incorporate these literacies in education.

Prof Dunn commented on the slow pace of policy and legislative change, for example we are still governed by the Broadcasting and Re-Diffusion Act, where re-diffusion is outdated. This is just an indication of how we need to review and upgrade legislation.

Neal Lemlein, Keynote Speaker

A problem that is developing in the US is that so many choices and bundling is happening because of deals that are made between companies. The new products being produced from these rapid deals create confusion among consumers. The challenge for our community is to educate and market so that this capability is not an obstacle. We are not all aware of the life improvements for information, education and communication on offer by the technology. That is a challenge to the marketing community.

With increased research and with the items of our lives being monitored there is a real erosion of privacy. Nielsen will come up with a system that will be able to predict the products you will buy based on the media you consume. Do we always want to be in a position to "not agree" online? And where does that stop and where does our freedom of choice prevail?

With advancement of mobile technology he thinks we should always look at those issues.

Prof. Hopeton Dunn, Session Chair

We have come to the end of the conference. We have had a good opportunity to explore many of the challenging issues of our time. We live in a very rapidly changing world and we cannot be left behind even when we consider the consequences of change. That is the objective of the regulator and the sector. One of the largest issues is the need to underline the importance of digital switchover in terms of the mother of all reforms facing us now in this sector. The apps are important but they must fit within a broader macro framework of strategic reform and that is what DSO is seeking to do. And we cannot indefinitely delay it

or continue to push timelines back. We know there are costs involved. But we think it is important that those who are able should move the process forward. Government should designate a time frame for the changeover from analogue to digital in line with the recommendations made by the Digital Switchover committee.

Another area is dealing in a more active and engaged way with persons with disabilities. Whether we can move to a radio station for persons with disabilities is a process. But the introduction of SAP and the introduction of closed captioning can be done. They need not be mandated but the providers need to see the importance. But it will become an important matter of higher priority now on the agenda of the Broadcasting Commission.

We are going to continue to empower the vision and the ideas of the young professionals that presented. These innovations are crucial to how we go forward. They are about monetizing and transforming the economy, not just about conventional ways of doing things. And their recommendations and ideas will receive very serious consideration from the Broadcasting Commission.

We have to move with dispatch to make the necessary recommendations to government to protect the citizen's right to high value content free from the limitations and siphoning from the narrower forms of output. This will work within the commercial framework driven by negotiations. If those are not working to the benefit of the broader public the regulator will make recommendations to government.

The issue we always come back to is that of protecting the interest of our children. The technologies allow us to make many types of content available. But the same technology should enable us to protect our children, to carry out public education and parenting education. It is the responsibility of the regulator that we are not trampling upon the rights of the vulnerable.

All issues have been documented by the Rapporteur and in audio and video formats. The BCJ will extract the outcomes from these.

He and Cordel Green then closed the conference thanking all presenters, Broadcasting Commission secretariat, Neil Lemlein and others for their participation and input. BCJ may call attendees back possibly for a conference of this kind, maybe annually. Annette Aiken has been providing sign language interpretation for the conference. PBCJ, Phase Three, Cariblink and Think Interactive have provided technical support. They also thanked the Chairman, the Commissioner and the Assistant Executive Director.

Summary of Outcomes and Recommendations

The following is a list of the key outcomes of the conference.

- There is a need to contemplate the future of media as a possible avenue for future development. This is in light of the various evolutions in the sector including:
  - The Internet of Things as a vehicle of content,
  - More personalized media access,
  - The continued growth of mobile usage and access to high speed internet,
  - The shifts in consumption patterns away from print and away from "appointment television" and consequently the need for media to reinvent themselves.

- There is an imperative to indicate a policy and timeline for Digital Switchover as an enabler of growth of the industry and accessibility of content for consumers.

- There is a need to regulate indecency in relation to traditional and new media especially in the interest of the children. Media Literacy is seen as a key matter for the regulator to address with parenting education and public education as key priorities.

- There is also a concern in relation to piracy and infringement of intellectual property rights on the internet. There are emerging perspectives on IP such as 'copyleft' which advocates the sharing of content. The rules need to be clear so that media creators can innovate and provide forward thinking media services.

- Privacy issues must also be considered especially as the internet of things collects and creates data about us that can be sold to and used by marketers.

- Media producers and providers are encouraged in this era to get to understand what the media consumer wants since there are multiple avenues of content and you will still need to reach the consumer where he or she is.

- Access emerged as a key issue as the majority of the population still does not have access to the internet at home. They also need access to the skills and tools which will allow them to create their own media.

- The issue of access also includes the optimization of content for persons with disabilities. Switchover will make it easier to create content for persons with disabilities. But even before the switchover takes place, broadcasters will need to implement SAP and closed captioning for access by persons with disabilities. The Broadcasting Commission intends to prioritize this issue and possibly implement regulations related to this type of programming.

- The possibility of the establishment of a radio and TV station run by persons with disabilities should be considered in order to give this group a voice.

- The treatment of special content will be monitored closely and Anti-Siphoning policies will be implemented if deemed necessary.

- The constantly converging digital media environment is one where we will have to be vigilant in discerning these and other social, policy and regulatory issues that are constantly emerging due to these transitions.