Dashboard of the future

Science and innovation to accelerate economic growth

Dr. **GEETHA ABEYSINGHE**, Program Director of COSTI talks about Sri Lanka's first-ever National Innovation Dashboard which reflects the Science, Technology and Innovation (ST&I) position of the country with BusinessLK's **CHANDANI JAYATILLEKE**.

The introduction of the National Innovation Dashboard last month is an opportunity for Sri Lanka to develop and maintain a national research and scientists' database, with a complete list of people who are engaged in research and innovation activities and their outputs. The dashboard project was spearheaded by the Coordinating Secretariat for Science, Technology and Innovation (COSTI) which was established on February 1, 2013 with the specific aim of coordination and monitoring of Science, Technology and Innovation activities in the country.

The system was developed by Lanka Software Foundation, a non-profit organization formed with the objective of promoting open source development, by Sri Lankan developers, with the close collaboration of the IT team of COSTI.

There was an urgent need for Sri Lanka to establish its own innovation dashboard, because there was no one-stop location to get the national ST&I information in the country earlier. "Sri Lanka's achievements never got reflected fully at the international level, although our innovators, scientists and researchers had made some significant contributions to the development of ST&I of the country," Dr. Geetha Abeysinghe, Program Director of COSTI who was in-charge of the dashboard project told BusinessLK in an interview.

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This project will act as a catalyst for inventors in Sri Lanka who were not really networked in any way, until the Dashboard concept came along. This concept is very popular in many other countries where innovation is a way of life. This will also pave the way for international recognition for our inventors and innovators.

In the Global Innovation Index, Sri Lanka's position was falling over the years irrespective of the nation's contributions. As a country with a higher literacy rate and a young generation with innovative skills, this was unacceptable.

Urgent need

"We continuously hear about various innovations by our people; there are achievements at international, national and school levels. All these projects may not have reached a commercially viable stage. But our youngsters bring out a considerable number of innovative project ideas each year. Unfortunately, these are not captured in our data. The global indices do not justify our achieve-

ments totally due to the unavailability of proper data," noted Dr. Abeysinghe.

Lack of data sharing

As a nation Sri Lanka has a huge problem about data. "Although many government agencies/organizations and individuals collect data for various research activities, these data hardly becomes available for analysis and decision making in the relevant year, some never become available for public. When data is collected by individuals there is reluctance in sharing that data. Basically in many cases data collected using public money is not made available for public use or research, which is a serious issue. Another issue is that all the data required calculating a particular index may not reside with one agency, which also leads to the problems of unavailability of real-time data and data duplication leading to reduction of data integrity," added Dr. Abeysinghe.

For instance, there are various research projects about Chronic Kidney Disease of unknown etiology (known as CKDu). But the results of these researches are not fully known. "There is no particular place where we can see valid, tangible outputs. There are also instances where we assign foreign agencies to carry out research in our country, but fail to secure that we will own the data. This puts us into an awkward situation where we have to re-negotiate to access our own raw data or sometimes never get access to it.

The dashboard project, since it was started, got generous support from some universities, professionals, researchers, individuals and research organizations. "But some were reluctant to share data, even the academics. Although most academics publish their profiles in global portals, in order to put their profiles on a national portal some seek a superior's permission. But this is a national portal and everyone should understand that it is for a national cause, see the value of publishing their profiles and should take the lead to share and maintain the currency of their information," she

emphasized adding that the Dashboard is for national good; national developments should not be hindered by personal or political agendas, otherwise we will never go forward scientifically or otherwise.

Attitude change

"We need to change our attitude towards sharing data through a systematic way in the future. For instance, if public money is used to collect data, the government should give clear instructions to share such data for further research or analysis, or for the purposes of economic development projects. In my opinion, 'sharing of data' should be supported at the national level. This data is difficult to collect. COSTI has realized that the unavailability of data is a huge challenge for ST&I growth. Obviously the international agencies also may find it difficult to obtain proper data on ST&I of Sri Lanka for their classifications."

Current and dynamic

Talking about the operational side of the dashboard project, Dr. Abeysinghe said, it should be simple, current and dynamic. Irrespective of the users' background, educational qualifications he/or she should be able to use it. Navigational instructions should also be user-friendly. The current dashboard and the database will serve to:

- Ensure establishment, maintenance and delivery of stable, reliable, and accessible collections of Institutional and people Data in electronic form for shared access by the community;
- Maximize the value of research data by increasing the understanding of the collected Data;
- Provide an integrated view of national research outputs;
- Improve direct access to research data for end-users;
- Provide valuable input to industry experts on what to avoid and where to channel their limited resources and how to align with existing resources to ensure better end results;
- Provide a vital platform for networking for those involved in ST&I;

- Provide high-level visibility to the utilization of national funds, and projects;
- Support the National ST&I strategy by providing national ST&I information that can be an integral part of decision-making, competitive positioning, and focus on value-adding areas.

User-friendly

"Users will find it easy to operate and find information. It has critical and useful information for decision/policy makers. The Dashboard hosts valuable information on R&D output - such as publications, patents and projects. Those seeking crucial information about IP and patent registry will also be able to

know beforehand if someone has pre-empted their R&D initiative and quest for IP. Throughout the RD&C (Research, Development to Commercialization) value chain there are many players such as researchers, lecturers, fund managers and industry who have different questions that they need answers to. The Dashboard will facilitate answers to all kinds of questions sought by the users, such as:

Is this technology area worth pursuing? Has anyone done a similar project? Who or which organization can I collaborate with? What are possible sources of funds? And what are the publications written and patents granted in this area which I can refer to?

Funders will also find the dashboard an excellent reference point. They can seek relevant feedback and information before approving the allocation of funds by ensuring that the proposed project has the potential of producing commercially viable outputs.

The dashboard is designed to reflect the Innovation ecosystem. Information is classified according to the OECD Classification System. This enables all the data to be linked to each other and can be easily made accessible to the user. This feature also facilitates the robust search of data.

Explaining further Dr. Abeysinghe said the dashboard operates on the web. It is compatible with any web browser which has Javascript support. "Anyone can use the application, but only registered users are able to save data to the database. The Sri Lanka Innovation Dashboard can be accessed through https://dashboard.costi.gov.lk

Maintaining your own profile

Individuals and institutions are encouraged to maintain their own profiles updating data about their publications, patents and innovative projects onto the dashboard. They can create a 'My Profile' page with the instructions given in the Home page. "By registering one can create his/her own profile. The user will be responsible for updating his/or herown profile.One can set his/her preferred Privacy Settings controlling what is displayed in one's public profile. User's research outputs (publications, patents, and projects) contribute to elevate the national status and hence are important.

National resource

The Dashboard can become the national resource centre for data and information on R&D in ST&I and become the most accessed gateway in local research output. In order to become the central database and to attract registration of all R&D output by local scientists, researchers and organizations, there should be policy level support. The Dashboard will act as the most powerful and comprehensive knowledge resource

on research publications from both the public and private sector particularly from universities, research institutes and other RD&C and STI related organizations. For this to happen, government agencies such as the UGC should mandate that all research activities should be recorded for recognition.

Funding agencies such as NSF (National Science Foundation), CARP (Council for Agricultural Research Policy), and NRSby incorporating the Dashboard in their funding applications can encourage researchers to register and keep their profiles updated.

In short, the Sri Lanka Dashboard will become one of its kind, the first national scale portal for

recording of all RD&C and STI activities in Sri Lanka. It will become recognized as a reliable and user-friendly resource-rich platform for all knowledge and information seekers. It will connect and network all those involved in Research, Development & Commercialization (RD&C) and stretch to all those whoseek the advancement of ST&I in the country. The constant on-going upgrading of its features and functionalities will keep on adding value to the users.

Dr. Abeysinghe emphasized that Sri Lankan researchers should think of sharing their research work, data and knowledge to maximize the impact in this age of digital knowledge. "We cannot talk about a

COSTI team

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knowledge economy without sharing; sharing and dissemination is a major element of a knowledge based economy. We have to encourage young people to develop a knowledge sharing culture among them. Otherwise we will never be able to shine as a nation with science ST&I skills." Since the knowledge is not shared and a one-stop data base is not maintained, many an achievement in the field goes unnoticed. This could be also a major reason why Sri Lanka looks at importing foreign knowledge in certain instances.

Economic acceleration

"We need to think of our own solutions for our problems; only we know our issues. We cannot expect foreigners to give us solutions for many of the local issues.

We need to make use of our own knowledge/people rather than importing certain technologies, especially software when we already have a generation of skilled and knowledgeable youth and experts to find effective solutions, technologically or otherwise."

The young team from LSF just after their graduation demonstrated their potential, taking this challenging task. The project was completed with a minimum of funding, which also proves that a lower price does not necessarily imply lower quality.

Dr. Abeysinghe said Sri Lanka should promote science among people at the national level. "Unless science goes to people -science will never be believed as a useful thing. Science must go to people and show them how science can help them – improve life, work and social standings. Scientists need to do more research projects which are more beneficial to people and the economy of the country. Sri Lanka has no 'time' for slow growth. We need a big bang to accelerate our economic growth. Otherwise we will lose our youth and their knowledge to other countries. Hopefully we will make a difference in the entire spectrum of 'science, innovation and the thinking process' with the launch of the national innovation dashboard."