

Shaping the Strategic Direction of the Surveying Profession in Sri Lanka

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Surveying as a career has been revitalized over the last two decades with the boom of the construction industry and requirements of the rapid technologies in mapping in the developing countries. The profession has reacted to these increasing demands with the emergence of new career trajectories to enable the profession be more specific in offering extended services. However, the respective local professional institution and authorities have not adapted to these changes and absorbed these practitioners in a satisfactory level. In the meantime, due to the increasing demand, many academically non-qualified people have entered the market along with other professionals and thereby have encroached the boundaries of the surveying career. No studies have been undertaken to determine the necessary measures that the surveying sector should take to meet these challenges. This study investigated the emerging trends within the land surveying profession, its relevance and future directions in Sri Lanka.

This study employed a two-stage, qualitative and quantitative research design. The first stage employs in-depth interviews with selected surveyors, educators, business professionals and government bodies followed by an online survey of all surveyors and selected educators and business professionals. Altogether, 143 responses were collected. Here, four career paths were identified including Geomatics, Geoinformatics, Hydrography, and Construction as future trajectories in the profession. To become a professional surveyor, one should have a general understanding of all of the above paths. In future, more and more sophisticated measurement techniques such as laser scanners, drone surveys, and advanced GNSS will gradually overtake conventional survey techniques. Currently opportunities for continuing professional development (CPD) courses are limited and it is suggested to organize such events more frequently with the collaboration of the academic institutions. The professional institution, practitioners and academia must work collaboratively and closely towards a common goal to uplift the profession. With this study, it is shown that academics should be equally recognized and a separate path 'Academic Route' should be created in the professional association. The respective professional associations should work together and clearly lay down each other's professional boundaries to minimize professional encroachment, and; the important thing is not to overlap each other's professional services and due respect must be given. In addition, relevant acts and legislation must be revised where necessary, to suite the modern world. Whenever, a trainee enters the profession, they should be properly guided and mentored, until they achieve professional status. A list of qualified and suitable mentors and surveying agencies must be identified and published by the respective institution. In addition, clear definitions and benchmarks for the new competencies and competency levels for Srilankan practitioners considering these new and emerging global trends must be declared.

Key Words: Surveying, Professionalism, Strategic Planning, Geomatics

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1. BACKGROUND

Traditionally, the role of the land surveyor was to collect spatial information pertaining to a land parcel including its boundaries, extents, nature and its ownership. However, in recent times, it has developed to a status of a managerial role. It also encompasses various other professions including; valuation, disaster management, agriculture, transportation, environmental monitoring, accident and crime scene investigation to plastic surgeries in medical sciences (Gunathilaka, 2015). Therefore, the profession of land surveying has been re-energized through the recent decades by the rising demands for construction and the changes in the industry requirements, which have created new challenges and opened new opportunities (Dumay, 2011; Ibrahim et al., 2010 and Norhidayah et al., 2012). In view of the usual and future paths, land surveying has been perceived as an important profession after which it can go outdated unless it follows and adopts the competencies required from the future profession (Owusu-Manu et al., 2014). In demand to realize this and additional theoretically useful ingenuities, the surveying profession requires control to effort the endeavours concerning its development prospects (Bhattacharya et al, 2013 and Bigliardi et al., 2014). In today's world, the professions remain in existence by addressing the future needs of the community (Shokri-Ghasabeh, 2013). Most of the international professional associations like Royal Institution of Chartered Surveyors (RICS) are redefining their professional competencies time to time in accordance with the development and demand of the industry. Various trends in the surveying profession have emerged globally in the last two decades. However, the adaptation and response to those changes by most local associations and communities in developing countries are minimum (Smith, 2004; Styhre, 2012; Wirahadikusumah and Pribadi, 2011 and Wong and Lin, 2014). Sri Lanka as a nation is undergoing a vast and rapid infrastructure developments and rehabilitations, especially after the war in 2009, and the role of land surveyors in this development and land settlement has been crucial. Due to this reason, the demand for the surveyors has been increased and it requires diverse competency skills more than ever before (Divithura, 2007 and Gunathilaka 2015). Therefore, it is expedient to examine these career trajectories within the surveying profession in relation to Sri Lanka to provide directions for its positive impact on the industry.

2. METHODOLOGY.

The aim of this study was to explore the emerging career directions within the surveying profession in Sri Lanka. Both qualitative and quantitative approaches were adopted to study the current practices of the profession and the emerging trajectories. The researchers remain distant and independent of what is being researched. Having that in mind, an online anonymous questionnaire was used as the primary source of data collection and several expert interviews were also carried out. The population considered under this study was the practicing professionals in the surveying profession in Sri Lanka and the individuals who are now working outside Sri Lanka after gaining their basic qualifications from Sri Lanka. This includes practitioners from the government sector, semi government sector, private sector as well as educators. A 15 paged questionnaire was designed using the Google Forms. Over 500 emails were sent to identified Srilankan professionals working in and outside Sri Lanka and out of that, 118 respond were received. Apart from that 25 face to face interviews were also conducted. Here also, a structured set of questions were prepared covering the main aspects similar to the online questioner. Here, top level professional were selected as interviewees and

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they were omitted from the online survey. Figure 1 is showing a summary of where the responses came from. Finally, the results from both modes were analysed and the results are discussed as follows.

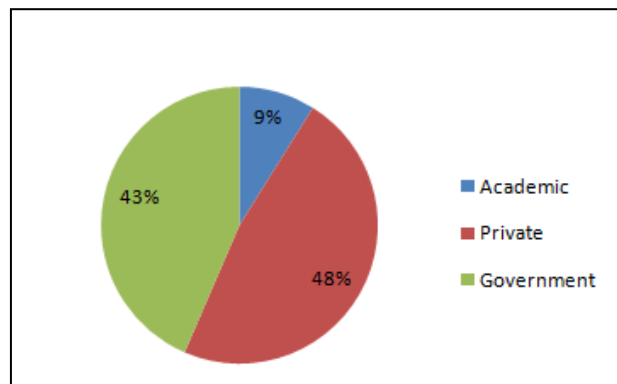


Figure 1: Summary of the survey respondents

3. IDENTIFIED KEY COMPETENCIES AND QUALITIES OF THE SURVEY PROFESSION.

It is very clear that there are new career paths evolving in the surveying profession and this is due to the fact that the local profession needs to adopt to change to provide better service to the clients. This study highlighted four career paths including Geomatics which focuses on conventional boundary surveys, Geoinformatics focusing the remote sensing and GIS, Hydrography which is dealing with marine surveys and Construction which is related to the construction industry including setting-out and engineering surveys. To become a professional surveyor, one should have the general understanding of all the above paths. However, the professionals have to specialise in at least one of them to survive in the market. In future, more and more sophisticated measurement techniques like laser scanners, drone surveys, and advanced Global Navigation Satellite System (GNSS) will gradually take over the conventional survey techniques. Theodolite will soon become obsolete. Total station will be the most widely used instrument. Because of these techniques, field measurement part will be very rapid and robust. With the scanning techniques, very large amount of data will be acquired. Therefore, Big data concepts need to grow in the industry. More and more open source software will be available, and surveyors will need great deals of Information and Communication Technology (ICT) skills in processing these data sets. Higher degree of professional ethics will be expected from them and the surveyors needs to develop the lifelong learning attitude to catch up with the fast-changing technology to deliver the required outputs and to be on the crest of the professional wave (Figure 2).

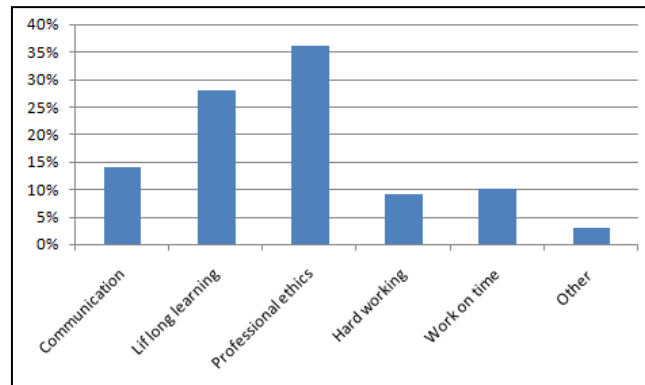


Figure 2: Expected Soft skills.

4. HOW THE SURVEYING EDUCATION SHOULD CHANGE TO MEET THE CHANGES.

Most of the courses running in Sri Lanka related to Geomatics are still relevant and valid to cater the current professional demand. The teaching styles used, available facilities and course durations are satisfactory. The trend of gaining postgraduate qualifications by surveying professionals has increased. However, they prefer such courses be offered in main cities such as Colombo due to easier accessibility to transportation and other facilities. It was suggested that new modules must be added to the curricula on the latest technology used in surveying. Currently, the opportunities for continuing professional development (CPD) courses are limited. Most of the survey and interview participants shared a common view that the professional institution should initiate this and that it is better to organize these courses in collaboration with the universities. The professional body should monitor such programs. Usually, whenever, a problem encountered, they immediately turn to their colleagues for solutions. In this case, there is no guarantee in getting the most appropriate advice. The academic institutions should reach the industry and support their problems in an effective manner.

5. WAYS OF THE PROFESSION CAN CONNECT WITH EMPLOYERS, EDUCATORS AND POLICY MAKERS.

The professional organization, practitioners and the academia are the three important pillars of any successful profession. These three must work collaboratively and closely towards a common goal to uplift the profession. The trust must be developed between each other and a constant dialog should be there to move forward. The main issue in the surveying profession in Sri Lanka is the lack of collaboration and engagement between the professional body, industry practitioners and academia. The survey and interview participants highlighted that the importance of all three parties should be recognised and a separate path ‘Academic Route’ should be created in the professional ladder.

Today, the gaps between the similar professions are getting less and less and more and more overlaps are occurring. Therefore, the respective professional bodies should work together and clearly identify each other’s professional boundaries. The important thing is not to surpass each other’s profession and due respect must be given.

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The SriLankan professional organization (the Surveyors Institute of Sri Lanka), only accepts members from the survey department of Sri Lanka or trained as secondment basis in there. As a result, there are individual practitioners who are working in the private sector for over 15 years without being able to get the local professional membership. Most of them are engaging with the topographic surveys and construction related work. Their applications for memberships are generally rejected on the basis that the professional body does not satisfy with their practical experiences. The results have highlighted the importance of creating separate pathways in membership categories and absorbing all the qualified practitioners in to the profession and then, strictly controlling the quality of the standards of each pathway, as well as the professional chargers to some extent. This will improve the community reputation and win their trust. The professional working scopes must also be defined clearly under each pathway.

6. HOW THE LOCAL SURVEY PROFESSION SHOULD RESPOND TO THE IMPACT OF GLOBALIZATION.

Globally, similar to other professions, the survey profession is also under the influence of the rapid development of the technology. However, it may take several years to reach such technology in to the operational level in the local markets in Sri Lanka. However, appropriate CPD programs or seminars can be organized to introduce these modern technologies to the members. The support from the academia can be used for this.

Apart from that, the respective acts and legislations must be considered revising to match with the global practices (Figure 3). When a trainee enters the profession, they should be properly guided and must be carefully taken care of till they achieve the professional status. Suitable list of mentors must be identified and published by the respective institution. Apart from that, clear definitions and benchmarks for competencies and competency levels must be developed for SriLankan practitioners by considering the global trends. One of the biggest threats to the profession was the entrance of the unqualified individuals in to the professional practice. This can be stopped by arranging awareness programs to the industry organizations on this. Here the professional body must take bold and strong actions against these.

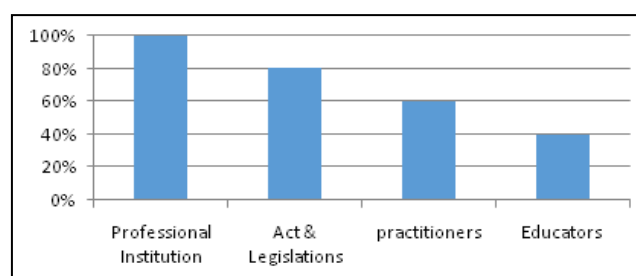


Figure 3: Responsibility comparison.

7. DISCUSSION

It is very clear that there are new career paths evolving in the surveying profession and this is due to the fact that the local profession needs to adopt to change to provide better service to the clients. This study highlighted four career paths including Geomatics which focuses on

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conventional boundary surveys, Geoinformatics focusing the remote sensing and GIS, Hydrography which deals with marine surveys and Construction which is related to the construction industry including setting-out and engineering surveys. to become a professional surveyor, one should have the general understanding of all the above paths. Most of the courses running in Sri Lanka are still relevant and valid to cater the current professional demand. The teaching styles used, available facilities and course durations are satisfactory. The professional organization, practitioners and the academia are the three important pillars of any successful profession. These three must work collaboratively and closely towards a common goal to uplift the profession. The trust must be developed between each other and a constant dialog should be there to move forward.

Globally, similar to other professions, the survey profession is under the influence of the rapid development of the technology. However, it may take several years to reach such technology in to the operational level in the local markets in Sri Lanka. However, appropriate CPD programs or seminars can be organized to introduce these technologies to the members. The support of the academia can be used for this. Today, the surveying profession in Sri Lanka is on the cusp of potentially significant change with the emergence of these career trajectories. The progression of this greatly depends on professional competencies and soft skills of the professionals. As the world is moving towards efficiency and specialization, career trajectories are vital in order for the profession to remain relevant.

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