

## Measuring the Motivation of Computer Science Faculty

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The quality of education is of utmost importance for India to retain its niche in the software industry. However, owing to the high demand for computer science professionals in industrial sectors, it is hard to recruit and retain computer science faculty. Motivated teachers have a tremendous impact on students and their quality of education. They are also easier to retain. Therefore, improving the motivation of computer science faculty is of great importance to Indian higher educational institutions. Unfortunately, research is lacking in the measurement of motivation of faculty members. This study aims at filling that research gap by developing and validating the instrument. Expert opinions, pilot testing, reliability check and factor analyses were used to validate the instrument. Correlation Analysis was also conducted to understand the relationship of demographics, training and institutional autonomy with faculty motivation.

**Keywords:** Faculty Motivation; Higher Education; Computer Science; Factor Analysis.

Teachers who take interest in their work and enjoy what they do can have a profound impact on students and the institutions they work for. Motivated teachers are vested in the development of their students. They examine and improve their own work in order to be effective teachers and productive employees. They motivate students to think, learn and apply. Motivation of teachers is therefore, very important to the development of students and institutions.

Motivation is the force that drives, energizes and sustains behavior (Porter, Bigley & Steers, 2003). Motivated teachers not only deliver student satisfaction, but also derive job satisfaction for themselves, which leads to a healthy institutional environment. Motivation is positively related to job satisfaction in many sectors (Gagne & Deci, 2005; Maharajan, 2012; Tella et al., 2007) and work motivation is known to influence job performance in general (e.g. Anyim et al., 2012; Darolia et al., 2010; Gagne & Deci, 2005; Salleh et al., 2011). Faculty motivation is related to high performance (Afful-Broni, 2012). Motivation also helps retain employees (Dysvik & Kuvaas, 2009). Motivated faculty have a positive impact on the quality of student education (Akuoko et al., 2012; Baleghizadeh & Gordani, 2012; Ofojebe & Ezugoh, 2010), which

is probably the most important benefit to higher educational institutions. The numerous benefits of faculty motivation, viz. quality of education, job satisfaction, job performance, retention and student satisfaction, make it important for institutions to understand how to measure and improve motivation.

### **Research Gap and Objectives**

The present day engineering education is confronting many challenges particularly in information technology (IT) and computer science domains. To address these challenges pragmatically, engineering faculty members are expected to learn and adopt new approaches of pedagogy, for which motivation is the key element (Fink, Ambrose, and Wheeler, 2005). Seymour and Hewitt (1997) identified that the major reasons behind engineering and science students' decisions to leave their field were issues with teaching quality. Sabagh and Saroyan (2014) stated that professors often get succumbed to the barriers they come across thereby creating a negative impact on the learning of the student community. As faculty motivation is the key to the quality of education and success of the engineering institutions, it is important to understand the motivation of computer science and information technology faculty members (Payne, 2013). However,