

## THE IMPACT OF LEADERSHIP ON CREATIVITY AND INNOVATION IN INDIAN HIGHER EDUCATION

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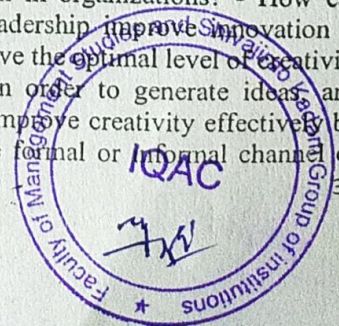
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### ABSTRACT

*This article aims to identify the role of leadership in influencing creativity management and innovation management in the higher educational organization. From this point, this study tries to drive the thinking of economic companies that taking benefits from creativity and innovation requires their good management inside the company For that the companies needs to focus on good leadership. Therefore, we are trying through this intervention to clarify the impacts of leadership on creativity and the innovation in the higher educational organization. In addition, among the most important results reached in this intervention, is that the meaning of creativity is the tendency to generate or recognize ideas, alternatives, or possibilities, and innovation is turning these new and imaginative ideas into reality to help organizations in achieving its goals. To develop creativity, the organization must have a flexible structure that ensures a good culture that the leader could provide the right climate to his employees, inspire them, and motivate them, so they could have the ability to generate artful ideas. Moreover, to apply innovation, the organization must have the culture that accept change and put leaders that could make employees feel the necessity to innovate and to do more initiatives in order to achieve organization's goals.*

**Keywords:** Creativity, innovation, organization, leadership.

**Introduction:-** In the light of a quick changes imposed by many of variables as technological développement globalization of markets, high competition, the enormous increase of knowledge...etc, innovation and creativity one of the most important tools to meet these challenges, through role they play in the renewal and the development of productivity and marketing. On this basis, the creativity and the innovation are essential factors to support the competitiveness of the educational organisation. Any organisation whatever their means and capabilities may not maintain its position in the country by adopting traditional methods and strategies in an era of technological revolution and economic globalization, it is important for organisations to support the creativity and innovation because they are considered one of the most important shoulders to bear strong competition, which enables organizations to provide continuous streaming of new technics and production of high-quality education. From this point, we can formulate our main question: "How can leadership improve creativity and innovation in organizations?" This main question can be divided into these sub-questions: - How can we achieve the optimal level of creativity and innovation in organizations? - How can leadership improve creativity in organizations? - How can leadership improve innovation in organizations? As pre-answers to these sub-questions: - To achieve the optimal level of creativity and innovation, organizations needs to motivate employees in order to generate ideas and choosing the right way to apply these ideas. - Leadership can improve creativity effectively by communicating a vision conducive to it, through any available formal or informal channels of







## Design and Analysis of MEMS-based Pressure Sensor

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**Abstract**—In this work development of a pressure sensor for continuous monitoring pressure of the liquid is proposed. Pressure sensors are required in all fields like automobile, domestic application, defense, biomedical and aerospace application. In this work an assemblage of MEMS pressure sensor that can measure the pressure of the liquid. In this assembly, we used the combination of Strain gauge and diaphragm. This sensor can operate at high temperatures and harsh environments involving corrosive fluids. This Sensor has the potential of determining the velocity of liquid with more accuracy and repeatability. This sensor designing and simulation were performed by COMSOL Multiphysics.

**Keywords**—MEMS, Strain Gauge, diaphragm, COMSOL.

### I. INTRODUCTION

A MEMS pressure sensor is a transducer that converts pressure into an electrical signal. This electrical signal depends upon the amount of pressure applied by liquid. Sensors using Micro-Electro-Mechanical System have received great attention because the pressure sensing device get applications in our everyday life like monitoring, sensing, and controlling the pressure [1].

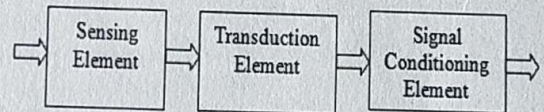


Figure 1. Block Diagram of the pressure sensor

The aim of this paper is to provide an overall scenario of pressure sensor technology, beginning from basic principles. It is followed by different ranges of pressures and the linked technology, based on silicon as the diaphragm material and piezo-resistor. Piezo-resistors for high pressures and higher temperatures followed by more exotic materials [1].

The pressure sensor works on piezo-resistive [2], [3], [4] principle. In this work, various tests have been done on the device to check the performance of the device under different conditions.

There are different types of Pressure measuring devices available based on different principles like absolute pressure sensor, gauge type, and differential pressure sensor.

### II. SENSOR ARCHITECTURE

The Primary sensing element in this MEMS sensor is the diaphragm, which deflects in response to the pressure. This mechanical deflection of the diaphragm is converted into electrical signals. We use techniques Piezo-resistive, capacitive, or Piezo-electric techniques.

In this sensor metal strain gauges located on the metal diaphragm, to maximize the sensitivity of diaphragm sets the position of the diaphragm in maximum stress. The piezo-resistivity in silicon micromachining and Silicon for diaphragm realization, piezo-resistors which are boron-doped silicon have replaced by the metal strain gauges. In this technique, we achieved much higher sensitivity because the piezo-resistors are directly embedded on the silicon diaphragm by diffusing boron or implanting in the selected regions of maximum stress. These resistors are arranged in the form of a Whetstone Bridge. When diaphragm senses the pressure due to strain application on it. Due to this action, the Bridge gives an output. This MEMS sensor enables linear operation over a wide range of pressures [1].

### III. COMSOL MULTIPHYSICS

This simulation of the MEMS pressure sensor was designed in COMSOL Multiphysics.

#### A. Physics Used

In this paper we used the laminar flow module physics in COMSOL Multiphysics 4.3b. When the force applied over the





## Leadership Effects on Student Learning Mediated by Teacher Emotions

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### Abstract:

College leaders' influence on student achievement is largely indirect. Using systematic review techniques, this paper assesses the impact that leaders have on their students when they focus their improvement efforts on those teacher emotions or dispositions known to have direct effects on teaching and learning in the classroom. Building on an earlier conceptions of how leadership influences student learning and based on a review of research over the last 25 years, this study identifies four distinct teacher emotions which have significant effects on student learning—collective teacher efficacy, teacher commitment, teacher trust in others, and Organizational Citizenship Behavior. This review also describes leadership practices likely to foster productive teacher emotions, most such practices reflecting a transformational approach to leadership. Keywords: college leadership; indirect influence; critical paths; student learning

### Introduction

Our goal in this paper is to describe and justify one promising, evidence-based, focus for the improvement work of college leaders. This focus is premised on the assumption that most of the influence of college leadership on student learning is indirect, that is, mediated by a wide array of college and classroom conditions with direct effects on such learning [1-7]. This paper extends earlier work conceptualizing college leaders' influence as "traveling" along four "paths" [8], each path populated by a related set of college and/or classroom variables with the potential to influence student learning. By way of illustration teachers' instructional practices are found on the Rational Path; teacher trust in others is included on the Emotional Path; collaborative structures are located on the Organizational Path; and the Family path includes, among other variables, parents' expectations for their child's success at college. The job of the leader, according to this conception of college leader influence, is to strategically select and improve the status of variables, on one or more of the paths, not yet sufficiently developed to realize their potential impact on student learning. Teacher trust, for example, is known to make significant contributions to student learning but only when such trust among teachers is high [9]. So a principal in a "low trust" college might chose to improve the level of teacher trust as one means of improving student learning; teacher trust is a variable located on what is described below as the "Emotional Path" linking leaders' influence to student learning. Concerned only with the Emotional Path, this paper reviews evidence about the effects on student achievement of four teacher emotions or dispositions and those leadership practices likely to help improve the condition of each. While evidence indicates that leaders' attention to variables on all four paths can improve student learning (e.g., [8,10]), teacher emotions are especially critical since they "seep across paths" thus shaping leaders' success in improving most variables on the other three paths [11]. A narrative review by the second author [11] of more than 90 empirical studies of teacher emotions and their consequences for classroom practice and student learning pointed to a large handful of teacher emotions with significant effects on teaching and learning. These teacher emotions included both individual and collective teacher efficacy, job satisfaction, organizational

