Kannada Sangha Pune's



Kaveri College of Arts, Science and Commerce, Pune

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Permanently Non-Aided | Linguistic Minority (Kannada)

Criteria III (Research Publications and Awards)

Key Indicator 3.3- Research Publication and Awards

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year

(2023-24)

List of Research Publications

AY 2023-24

Sr. No	Name of the Author	Title of the paper / Title of the book/chapters published
1	Dr. Jayashri Banagli	Evaluation and Analysis of Discomfort Glare in Indoor Luminaire Systems using Lighting Simulation Software
2	Dr. Sayee Kulkarni	An analysis of Capital structure of selected Indian IT Companies and its impact on profitability

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Evaluation and Analysis of Discomfort Glare in Indoor Luminaire Systems using Lighting Simulation Software

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ABSTRACT

To estimate the Unified Glare Rating (UGR) CIE for uncomfortable glare, this paper employs commercial lighting simulation software. The building's interior workspaces, such as study rooms and office cabins, are evaluated for UGR. Solid state lighting (SSL) luminaires with varying illumination distributions are evaluated and modeled in three dimensions using software, all while accounting for the observer's actual position and line of sight. The luminaire source's luminance and the angle between a luminaire's orientation and the observer position's line of sight are the primary factors contributing to discomfort glare. Field of view for the UGR values was determined by modifying the values of the three input variables, which is the main emphasis of this paper. UGR readings fall between 10 and 30, with lower being preferable; 16 being perceptible and 19 being only passably comfortable; and more than 19 being more uncomfortable.

This study focuses on the UGR values, which were determined by changing the values of the input conditions like the backdrop brightness's field of vision (Lb), luminance of each luminaire's luminous portions (L), and position index (ρ). Python program was developed to quantify UGR values. Both tabular and graphical representations of the results are provided. A comparative study is done on the outcomes from the UGR simulation program with different viewing angles and position index. The impact of the luminaires' light distribution, the observer's viewing angle and line of sight orientation, and the impact of background luminance on the UGR values and conclusion has been done.

KEYWORDS: Discomfort glare, Field of view, Lighting simulation, Software, SSL, UGR, Python.

INTRODUCTION

CIE, Unified Glare Rating (UGR)

The CIE presents the Unified Glare Rating (UGR), an international rating that measures glare discomfort and has gained importance recently. [1] The CIE created this UGR model specifically for interior lighting applications. UGR is determined by

measuring a fixture's brightness for a given line of sight direction. Glare affects the occupant in many ways like discomfort, and comes with various side effects like low concentration, headache, loss of productivity etc.

$$UGR = 8 log \left[\frac{0.25}{lb} \sum_{l} \left(\frac{L^2 \omega}{\rho^2} \right) \right]$$
(1)

The solid angle (steradian) of each luminaire's luminous components at the observer's eye is represented by the

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AN ANALYSIS OF CAPITAL STRUCTURE OF SELECTED LISTED INDIAN IT COMPANIES AND ITS IMPACT ON PROFITABILITY

Dr. Bhakti V Dandekar, Brihan Maharashtra College of Commerce, Pune And Dr. Sayee Kulkarni, Kannada Sangha Pune's KCASC, Pune

ABSTRACT

Capital Structure of the company is blend of Borrowed capital: Debt and Owned Capital: Equity, is of pivotal importance as it has direct impact on the profitability of the concern. Researchers, in this research paper have investigated the correlation between capital structure and profitability with the help of ratios. Composition of capital structure is identified with ratios like debt to assets, current ratio, Debt to Equity ratio and Profitability is measured with the help of return on assets (ROA), return on capital employed (ROCE). Seven listed IT companies are considered for the study. Secondary data from the annual reports of the companies is exercised for the period of five years i.e. 2018-2019 to 2022-2023. Descriptive statistics and other tools like Correlation, Regression and ANOVA are used to prove the hypotheses of the study.

Key Words: Profitability, Return on Assets, Capital Structure, Return on Equity, Debt Free Capital Structure

1. Introduction

Capital Structure signifies the precise blend of borrowed funds and company's own funds used to finance its assets as well as day to day operations. Equity capital always pose as permanent and trusted source of funds although represents expensive alternative. Equity capital also provides greater flexibility of operations, to raise when need arises. However, debt requires scheduled cash outflows although comparatively cheaper than equity. Nonetheless, company cannot completely rely on debt capital exclusively as it tends to create imbalance in the capital structure and lead to loss of faith by stakeholders of the organization. Debt is considered as one of the important element to create 'optimal' composition of owned and borrowed capital where minimising the average cost of capital and maximizing company's value is possible to a great extent. Striking the balance between equity and capital is a humongous task for the managers as efficiency of the organization is significantly determined by the Optimal capital structure.

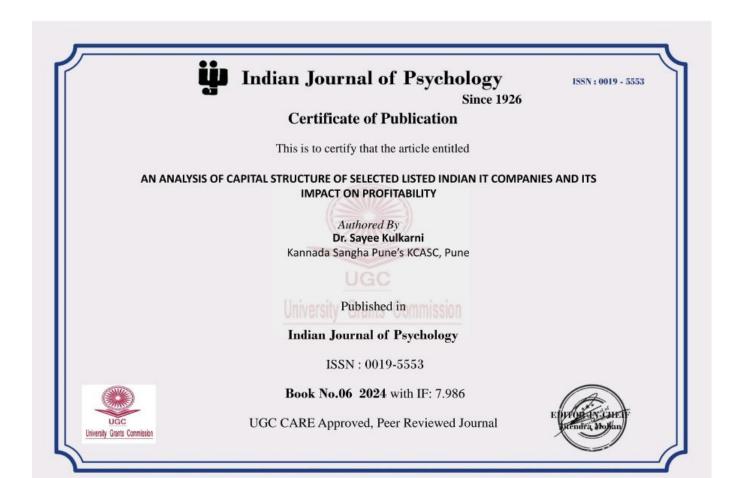
Profitability is much wider term than typically considered. It not only signifies excess of incomes over expense, but also creating wealth for shareholders as perceived by many thinkers. There are various components of measuring and analyzing profitability for the organization like PAT (Profit After Tax), EBITDA (Earning Before Interest, Tax, Depreciation and Amortization), EBIT (Earning) Before Interest and Tax), etc. Above parameters can be used to gauge the quality of earnings of the company. Profits can be increased due to rise in earnings and/or shrinking expenses. However, here researchers would like to study the impact of capital structure and burden of interest due to the debt component of the capital structure on profitability of a company. Payment of interest is an obligation to the organization unlike payment of dividend on shares. However, interest is paid before taxes and dividends are paid from earnings after payment of taxes. So, payment of interest creates leverage for the company by saving on the payment of taxes, however it is in the interest of stakeholders only when debt and equity is in reasonable balance. Optimal capital structure is considered as key towards the successful journey of the company which will help in enhanced profitability as well as wealth creation for the stakeholders. So, many theories and approaches are established over an extended period to understand and sustain the right capital structure like Traditional approach, Net Income approach, MM (Modigliani Miller) theory, Trade-off theory, Pecking order theory. Optimal capital structure results in minimum risk and higher trust worthiness and wealth creation, but without the one, company may not be able to seek sustainable growth in highly competitive economy.

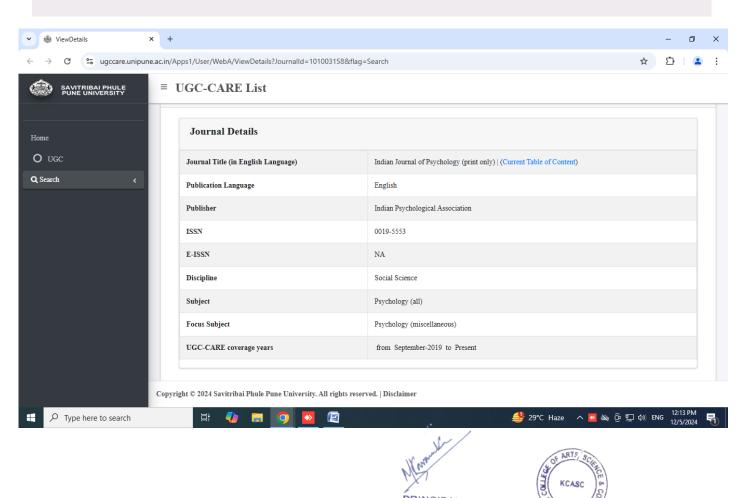
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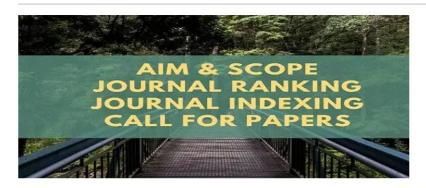
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