

THE SOCIALIST REPUBLIC OF VIETNAM
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**INFORMATION ON NEW ACADEMIC AND THEORETICAL
CONTRIBUTIONS OF THE THESIS**

Thesis's Title: Factors Influencing the Quality of Human Resources in Semiconductor IC Design:
A Case Study of Enterprises in the Southeast Region of Vietnam
Major: Business Administration Code: 9340101
PhD Candidate: Do The Thang Course: 2023
Training Institution: Lac Hong University
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The contributions of thesis on science and practice, including:

Scientifically: The thesis makes three new contributions.

First, it develops and validates a comprehensive integrated model of human resource quality in the semiconductor IC design industry. Unlike previous studies that adopted fragmented approaches (focusing on either internal enterprise factors or external institutional factors alone), this thesis proposes an integrated model combining both. The model explains 71.7% of the variance in human resource quality, demonstrating the superior explanatory power of the integrated approach in Vietnam's high-tech industry context.

Second, it clarifies the mediating mechanism of the work environment – an aspect never empirically tested in the semiconductor IC design industry. The thesis demonstrates that the work environment not only has a direct impact on human resource quality but also serves as a "transformational bridge" between "hard" investments (technology, training, innovation) and "soft" outcomes (human resource quality). This finding extends Kirkpatrick and Kirkpatrick's (2006) four-level training evaluation model by adding the "supportive environment" link to transform learning into behavior in the context of high-tech organizations.

Third, it provides the first empirical evidence in Vietnam on the moderating role of Government support on human resource quality. The thesis demonstrates that Government support plays a moderating role – an "institutional catalyst" that amplifies the effectiveness of enterprises' internal efforts. Notably, the interaction coefficient between Government support and training on human resource quality ($\beta = 0.217$) is the highest in the model, reinforcing and extending Institutional Theory (DiMaggio and Powell, 1983) in the context of emerging economies.

Practically: The thesis provides three groups of specific and highly feasible managerial and policy implications.

For semiconductor IC design enterprises: (i) Provides a self-assessment toolkit based on 26 observed variables across 6 scales, enabling systematic diagnosis of internal factors affecting human resource quality; (ii) Identifies strategic priority rankings; (iii) Designs flexible training programs differentiated by age and education to optimize training effectiveness.

For the Government and state management agencies: (i) Provides scientific evidence for designing focused and effective support policies: directing resources toward practical training and shared infrastructure (national chip design center, MPW services); (ii) Proposes coordinating support policies evenly across localities in the Southeast region to reduce awareness and opportunity gaps, thereby alleviating the over-concentration of human resources in Ho Chi Minh City.

For training institutions (universities and research institutes): (i) It provides empirical evidence on the gap between university training and actual enterprise requirements; (ii) It proposes a specific and feasible four-step training reform roadmap: accessing educational EDA licenses, restructuring programs toward project-based learning, requiring mandatory internships at enterprises, and inviting industry experts to participate in teaching.

Dong Nai, date 23 month 8.year 2026

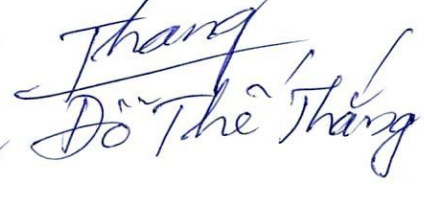
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