



Critical Success Factors on Product Development Management in Brazilian Technology Based Companies

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The Study: Critical Success Factors on Product Development:
managing factors and practices that influence success and unsuccessful development projects of new products

Firms: Small and Mid-Sized Technology Based Brazilian Companies

Sector: Medical and Hospital Equipment and Process Control Automation Equipment in State of São Paulo

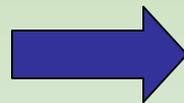
CONCEPTS:

Technology Based Companies



Firms committed to the project, development and production of new products with high technology

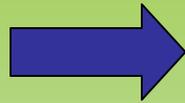
Automation of Process Control



Firms that use technologies (electronics, software, mecatronics, among others) for controlling of many industrial process

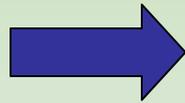
CONCEPTS:

Medical and Hospital Equipment



Companies that develop and manufacture medical and hospital equipments

Small and Mid-Sized



Employ from 20 to 99 individuals (small companies); 100 to 499 (mid-sized)

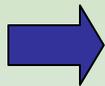
(Brazilian Support Services to Micro and Small Companies - Sebrae)



This work was developed through field research with a sample that included 62 firms;

Field research: quantitative

Structured
questionnaire



had 64 close-ended questions about managing of product development, focusing on the analysis of existing factors in a product development considered successful and unsuccessful by firms

Used 2 structured
questionnaires:



The same questionnaire
was applied twice in
each firm



The firms choose:

- 1 - product development project considered successful
- 1 - product development project considered unsuccessful

Each firm defined success and unsuccess from their own perception

RESULTS

Figure: The answers of success and unsuccess by firms

PRODUCT	SUCCESS (QUESTIONNAIRES)	UNSUCCESS (QUESTIONNAIRES)
Process Control Equipment	32	23
Medical Hospital Equipment	30	19
Total	62	42

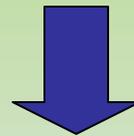
Figure: Main variables associated to developed product's success and unsuccess

ISOLATED VARIABLES	PROCESS CONTROL AUTOMATION/ FACTOR LOADING - T-TEST	MEDICAL HOSPITAL/ FACTOR LOADING - T-TEST
Interpretation of markets needs	0.478 – 0.003	0.567 – 0.000
Superior technical performance against competitors	0.509 – 0.001	0.483 – 0.006
Preparing documents – homologizing product	0.502 – 0.024	0.486 – 0.042
Managing skills necessary for the project	0.432 – 0.013	0.487 – 0.004
Analysing activities (technical and economical)	0.479 – 0.003	0.437 – 0.021
Generating and selecting ideas	0.384 – 0.023	0.513 – 0.001

Figure: Phases of Product Development Process



Activities and Decisions Associated with Pre-Development



- Interpretation of the market needs;
- Superior technical performance against competitors;
- Analysis activities (technical and economical);
- Generating and selecting ideas.

Importance of the
pre-development



Great influence over the
products development

Why?

The success of product development process depends on:

The proficiency of pre-
development phase



Generating ideas;
Selecting ideas;
Formulating concepts;
Analysing viability



Were pointed out as being critical for success

The results of the study ratify many of the success factors indicated in the literature regarding PDP management

Like: SOUDER et al. (1997); ERNEST (2002); KAHN et al. (2006)

This study identified as critical factors on Product Development Management



Activities associated with pre-development phase

Some results are not compatible with the literature



Seeing that they are TBC, it was expected that the acquisition process and technological transference would be critical for such companies



This hypothesis was not verified with the results of the research

Conclusions

- This study has a limitation:
the fact that it was carried out with a small sample of Brazilian companies and project developments of only two sectors of TBC
- Future studies can reproduce this method in other segments so that knowledge of PDP management in TBC can be applied and expanded.



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