

Metode seleksi proyek litbang perusahaan farmasi Indonesia berbasis kuantifikasi faktor keberhasilan dan risiko = Indonesian pharmaceutical company R&D project selection method based on quantification of success and risk factors / Ros Intan Purbasari

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Abstrak

ABSTRAK

Pengembangan produk farmasi membutuhkan biaya tinggi dan waktu yang lama. Untuk itu dibutuhkan seleksi proyek litbang melalui evaluasi menyeluruh berupa aspek keuangan, teknis, dan risiko. Untuk meminimalkan risiko, diperlukan metode penilaian yang menyeluruh. Tesis ini bertujuan merancang metode seleksi proyek litbang alternatif pada perusahaan farmasi Indonesia, dengan menimbang faktor kualitatif dan kuantitatif yang berbasis keberhasilan dan risiko. Berdasar studi literatur dan masukan para ahli litbang dan manajemen bisnis farmasi (5 perusahaan), diperoleh 11 kriteria dan 50 sub-kriteria, dimana kriteria regulasi memiliki peringkat tertinggi. Ada enam sub-kriteria baru pada kriteria teknis, regulasi, kemitraan, dan risiko, yang menggambarkan kondisi sekarang perusahaan farmasi Indonesia. Aspek kualitatif tersebut dihitung dengan metode *fuzzy-AHP* (*Analytical Hierarchy Process*) untuk pembobotan guna mengurangi subyektifitas pengambilan keputusan. Hasil evaluasi kualitatif menunjukkan proyek 3 dan 4 mendapat peringkat tertinggi dengan risiko kegagalan terendah. Selanjutnya, bobot kualitatif dimasukkan kedalam perhitungan kuantitatif *Zero-One Goal Programming* (ZOGP). Metode ini dipilih karena dapat menyertakan faktor *intangible* (kualitatif). Dari 6 proyek yang dievaluasi, terpilih 3 terbaik yaitu proyek 3, 4, dan 6. Namun ketika bobot kepentingan faktor risiko ditingkatkan, hanya terpilih proyek 3 dan 4. Dapat disimpulkan bahwa kedua metode tersebut sejalan dan tidak bertentangan. Maka metode gabungan ini terbukti meningkatkan *comprehensiveness* penilaian proyek.

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ABSTRACT

The development of pharmaceutical products requires high costs and a long time. For this reason, the selection of R&D projects is needed through a thorough evaluation of financial, technical and risk aspects. To minimize risk, a comprehensive assessment method is needed. This thesis aims to design a method of selecting alternative R&D projects in Indonesian pharmaceutical companies, by considering both qualitative and quantitative factors based on success and risks. Based on literature studies and input from R&D experts and pharmaceutical business management (5 companies), 11 criteria and 50 sub-criteria were obtained, where the regulatory criteria had the highest rank. There are six new sub-criteria for technical, regulatory, partnership and risk criteria, which describe the current conditions of Indonesian pharmaceutical companies. The qualitative aspect is calculated by the *fuzzy-AHP* (*Analytical Hierarchy Process*) method for weighting to reduce decision-making subjectivity. The qualitative evaluation results show that projects 3 and 4 get the highest rank with the lowest risk of failure. Furthermore, qualitative weight is included in the quantitative calculation of *Zero-One Goal Programming* (ZOGP). This method was chosen because it can include intangible factors (qualitative). Of the 6 projects evaluated, the best 3 were selected, i.e. projects 3, 4, and 6. However, when the weight of the importance of risk factors was increased, only projects 3 and 4 were

selected. It can be concluded that the two methods are in line and not contradictory. Then this combined method is proven to increase the comprehensiveness of project appraisal.</p>