Perancangan strategi implementasi internet of things (IoT) pada sektor logistik transportasi di Indonesia dengan menggunakan metode analytic network process = Designing implementation strategy for internet of things (IoT) on logistic transportation sector in Indonesia using analytic network process method

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Abstrak

ABSTRACT
Revolusi industri menuju industri 4.0 membawa dampak pada berbagai sektor industri di dunia, salah satunya adalah sektor logistik. Sektor logistik di Indonesia sendiri memiliki permasalahan akan besarnya biaya logistik yang dikeluarkan, terutama oleh aktivitas transportasinya. Salah satu solusi yang dapat dilakukan adalah dengan memanfaatkan perkembangan TIK, seperti yang terdapat pada Cetak Biru Perkembangan Sistem Logistik Nasional. Perkembangan Internet of Things IoT sebagai bagian dari Industri 4.0 dapat menjadi solusi dalam permasalahan logistik transportasi ini. Tujuan dari penelitian ini adalah menemukan rancangan strategi untuk implementasi IoT pada sektor logistik transportasi di Indonesia berdasarkan key success factors KSF -nya. Penelitian akan terbagi dua menjadi pemilihan dan pembobotan KSF, dan perancangan strategi. Pada tahap pemilihan dan pembobotan KSF, dengan menggunakan metode Analytic Network Process ANP maka didapatkan delapan butir KSF utama yang paling mempengaruhi implementasi IoT pada sektor logistik transportasi. Pada tahap perancangan strategi, dapat dihasilkan berbagai strategi yang kemudian dirancang diagram implementasinya dengan menggunakan metode Interpretive Structural Modeling ISM . Hasil penelitian ini adalah ditemukannya delapan butir KSF utama yaitu perubahan business mindset; komitmen karyawan; kualitas kinerja saat bekerja; training untuk pengembangan karyawan; kompetisi; keterlibatan top management; on-time delivery; dan kejelasan standar referensi arsitektur komponen penyusun sistem IoT, serta ditemukannya diagram strategi implementasi IoT pada sektor logistik transportasi yang berisi delapan strategi di antaranya menetapkan change management; melakukan pelatihan; manajemen sumber daya manusia; membangun kerja sama dengan partner; melakukan penjagaan dan continuous improvement terhadap sistem perusahaan; membentuk sistem pengawasan; membentuk fail-proof system; dan merancang desain sistem integrasi yang terstandar.
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ABSTRACT
Industrial revolution towards industry 4.0 has been going around and affecting various sector globally, one of them is logistics sector. On the other hand, logistics sector in Indonesia has their problem, which is the large sum of cost that must be allocated to logistics activities, mainly in transportation activities. A solution for this problem is by using the development of ICT, as said in the Blueprint of Development of National Logistics System. Internet of Things IoT as part of industry 4.0 is one of the option. The main purpose of this study is to find a design of implementation strategy for IoT on logistic transportation sector in Indonesia, based on its Key Success Factors KSF . This study is divided into two, identificating and prioritizing KSF by using Analytic Network Process ANP method, and designing the strategy. In the identificating and prioritizing KSF stage, the result is indicating that there are eight main KSFs which

affecting the implementation of IoT in logistics transportation sector the most. In the designing strategy phase, the eight main KSFs could be used to generate various strategies which then be designed into a structural strategy implementation diagram by using Interpretive Structural Modeling ISM method. The results of this study are the finding of eight main KSFs which are change in business mindset employees rsquo commitment performance rsquo s quality at work training for employees rsquo development competition the involvement of top management on time delivery and clear standard on architecture reference for components of the IoT system, and also the discovery of implementation strategy diagram for IoT in logistics transportation sector that consists of eight main strategies which are change management training human resources management building cooperative relationship with partner maintaining and continually improving the company rsquo s system establish a monitoring system forming a fail proof system and design a standardized integration system.