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Non-dominated Alternatives Method for Choosing the Type of Restaurant Business

There are many different urgent challenges that we encounter every day including nutrition issues. Opening a restaurant business will solve this issue at once. According to the state standards restaurant business can be such types: restaurants, bars, cafes, cafeteria, dining rooms, snack bars, buffets, primary food processing facilities, factory-kitchens, house kitchens, restaurants for special orders.

To determine a specific type of restaurant business it is necessary to construct the "blackbox" model [1], where I_1 - place, I_2 - different types, C_1 – DSS(decision support system), C_2 - decision-maker instructions, M_1 - budget, M_2 - premises conditions, M_3 - floor space, M_4 - location, O_1 – recommendations about places, O_2 - recommendations about type (fig. 1). Decomposition [2] of the model looks like figures 2,3 4 (a).

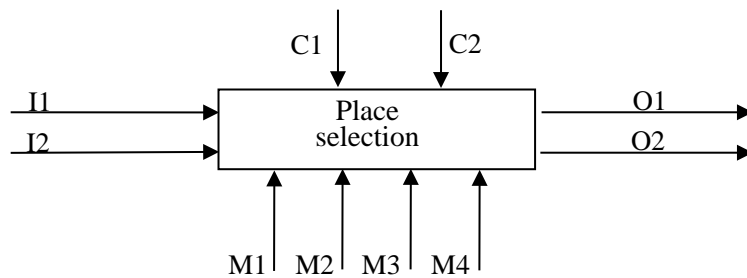


Figure 1 – The “blackbox” model

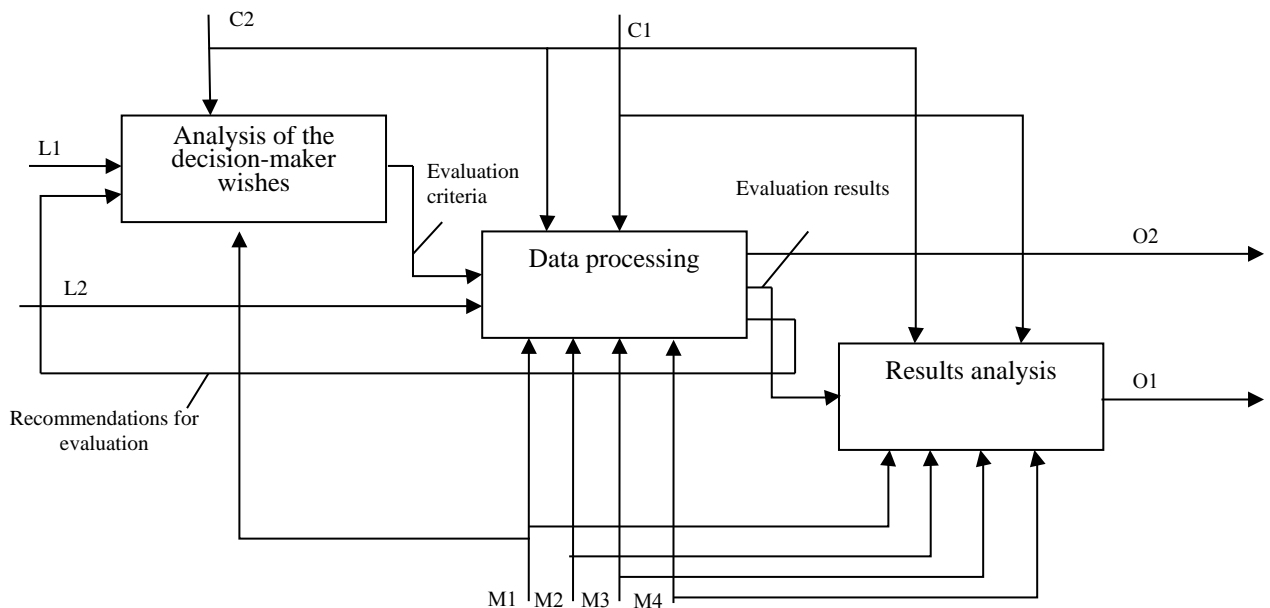


Figure 2 – Decomposition of the “blackbox” model

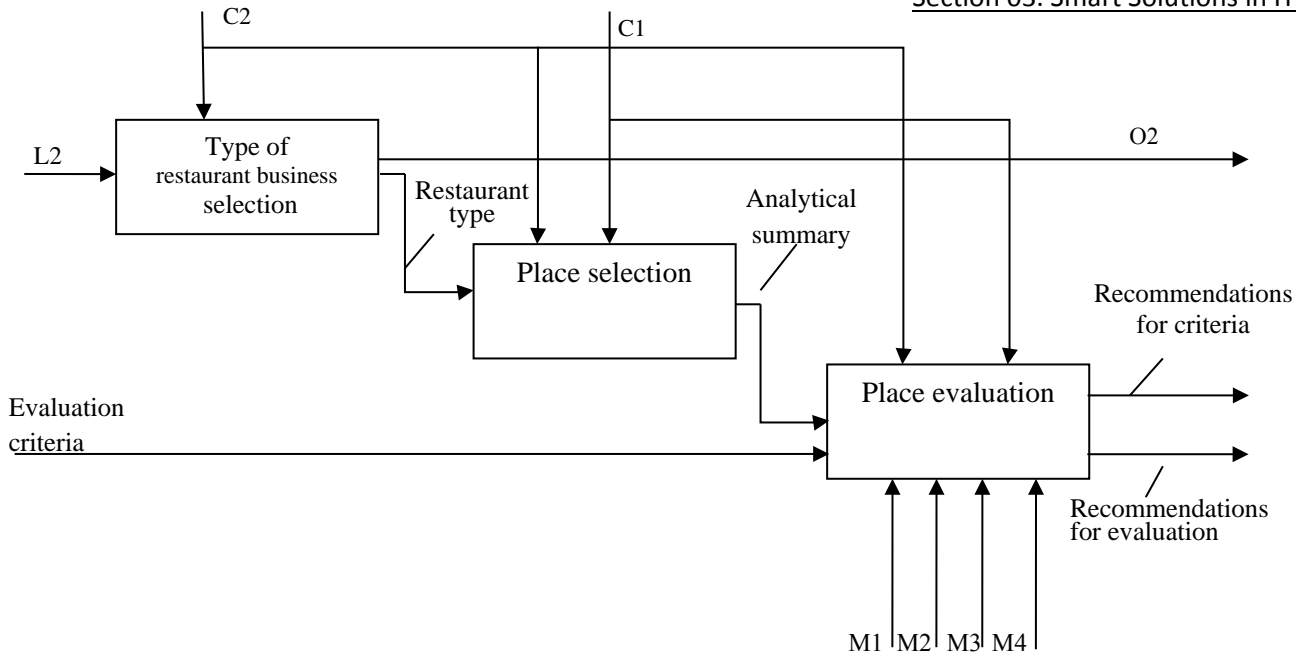


Figure 3- "Data processing" decomposition process

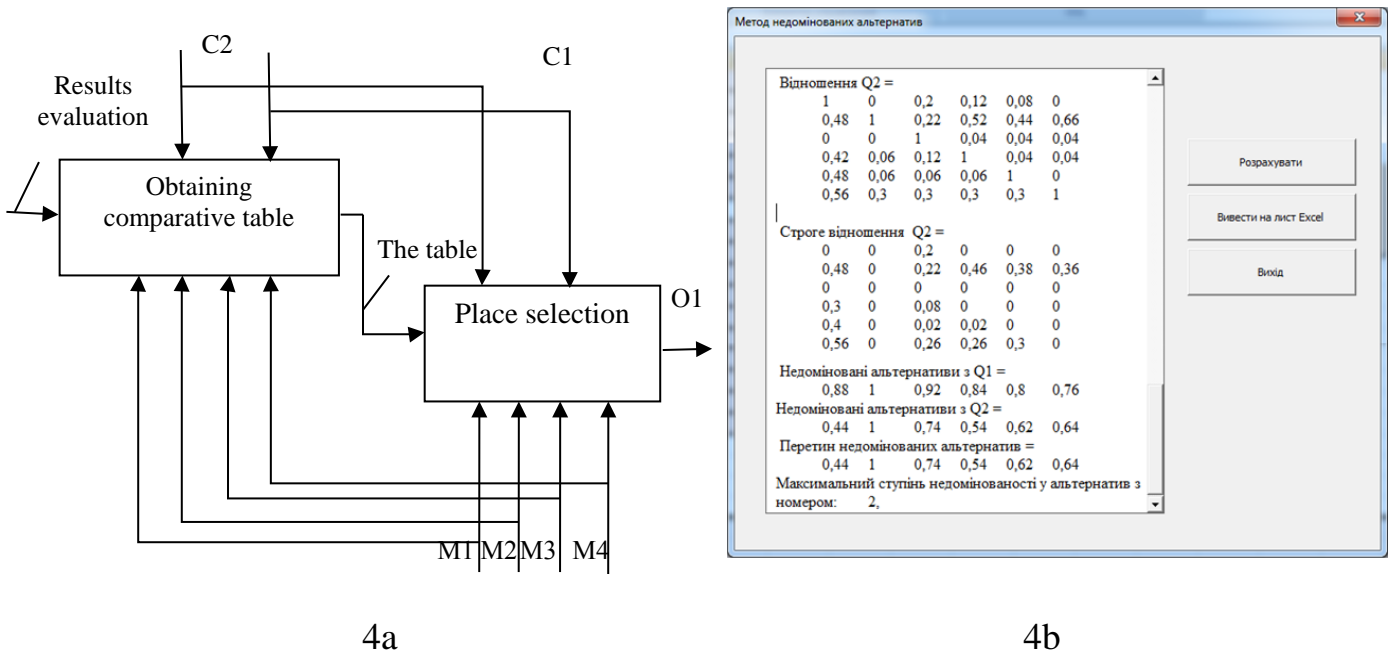


Figure 4a –Decomposition process of the “Results analysis”; b – the program based on the non-dominated alternatives

The developed program where decision-maker sets 2 basic criteria and their significance independently has been developed to solve the mathematical problem. The described program chosen the bar type among all the existing alternatives.

References

1. Suima, I.O, Homyak, T.V.(2016), Systemnyi analiz vyboru mistsia roztashuvannia kafe [System analysis of location cafe choosing]. S.I. Protsenko(Eds.), Ynformatyka, matematika, avtomatyka – Informatics, Mathematics, Engineering, (p.252). Sumy: SumSU [in Ukrainian].
2. *Systems Analysis and Design for the Global Enterprise 7th Edition* ((Ed. 7) Lonnie D. Bentley) (New York : McGraw-Hill :2007).