Produkteempfehlungssysteme mit minimalem Konsumentenaufwand und hoher Genauigkeit – Ein neuer Ansatz mit gewichteter Pareto-Front

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WIRTSCHAFTSINFORMATIK (2013) 55 (6)

Anhang (verfügbar online über http://springerlink.com)
Anhang

Algorithm CONJ

\{ Compare attribute levels with aspiration level \( asp \) \}
\{ Eliminate alternative if aspiration level is not met. \}
for \( p = 1 \) to \( n \) do
  for \( i = 1 \) to \( m \) do
    READ \( x_{ip} \)
    if \( \text{COMPARE} \ asp(x_{ip}) == 1 \) then \( \{ mn \} \)
      ELIMINATE \( alt_p \) \( \{ n-1 \} \)
  end if
end for
end for

Abb. A EIP-Kostenmodell für die CONJ-Strategie. Es gilt \( asp(a_{ij}) = 1 \) falls die Attributausprägung \( x_{ij} \) nicht die Attributrestriktion erfüllt. Die Summe der EIPs hängt von der Anzahl an Attributen ab, die betrachtet werden müssen, um ein Produkt auszuschließen. Die Kostenblöcke beziehen sich auf das Worst-Case-Szenario, in welchem ein Konsument alle Attribute betrachten muss, um ein Produkt auszuschließen.

Algorithm EBA

while at least two alternatives are left do
  \{ Find attribute with next highest attribute weight. \}
  READ first \( attr_c \) which is left
  \{ \( n-1 \) \}
  while not all other \( attr_i \) considered yet do
    \{ \( 0.5(m^2-m) \) \}
    \begin{align*}
      & \text{READ next } attr_i \text{ which is left} \\
      & \text{COMPARE } w_c \text{ with } w_i \text{ and update } attr_c \text{ if } w_c < w_i \\
    \end{align*}
  end while
\{ Compare attribute levels with aspiration level \( asp_c \) \}
\{ Eliminate alternative if aspiration is not met. \}
for \( p = 1 \) to \( n \) do
  if \( alt_p \) not yet eliminated then
    \{ \( m \( n-1 \) \) \}
    READ \( x_{cp} \)
    if \( \text{COMPARE} \ asp(x_{cp}) == 1 \) then \( \{ n-1 \} \)
      ELIMINATE \( alt_p \)
    end if
  end if
end for
end while

Algorithm LEX

while at least two alternatives are left do
  {Find attribute with next highest attribute weight}
  READ first $attr_{ci}$ which is left
  while not all other $attr_i$ considered yet do
    READ next $attr_i$ which is left
    COMPARE $w_{ci}$ with $w_i$ and update $attr_{ci}$ if $w_{ci} < w_i$
  end while
  {Check which alternative is best on the current attribute $attr_c$.}
  READ first $x_{cip}$ which is left
  while not all other $alt_p$ considered yet do
    READ next $x_{cip}$ which is left
    COMPARE $u(x_{cip})$ with $u(x_{cip})$
    ELIMINATE $alt$ with strictly lower attribute level utility
  end while
end while


Tab. A Durchschnittliche Anzahl betrachteter Produkte für unterschiedliche Entscheidungsstrategien und Stopregeln. Standardabweichungen sind in Klammern angegeben.

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<th>System</th>
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<th>3-Bounce-Regel</th>
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### Tab. B Simulationsergebnisse

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### Tab. C Simulationsparameter

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