REFLECTIONS ON PRIORITIZING DIVERGENT INTANGIBLE HUMANE ACTS

Jennifer S Shang
University of Pittsburgh
Pittsburgh, PA
shang@katz.pitt.edu

"Tom Saaty will be remembered for being clever, original, and inventive. To his Chinese friends, Tom was a man of humanity, while seeking to establish and attain for himself, he helped them find a foothold and thrive."

ABSTRACT

AHP is a versatile tool for prioritizing and making decisions. Yet, when facing numerous alternatives with significantly different scale, decision makers often found it impossible to put them together in one matrix and compare them simultaneously. To address the issue, Thomas Saaty and I (2011) proposed a new Analytic Hierarchy Process-based structure to capture the complex relationship between various levels of activities. Without the proposed model, we may not be able to tackle alternatives that are not comparable or it may require a very large number of comparisons, as only comparable items can be compared and used to calculate meaningful priorities. In this paper, we show how to use clustering and pivots to handle this difficulty. Through the proposed method, we expand the comparison scale, build a near-consistent matrix, and allow the use of incomparable alternatives. The proposed method helps us effectively derive priorities for alternatives with orders-of-magnitude differences like those in divergent intangible humane acts.

Keywords: AHP; clustering; pivots; ranking alternatives; decision-making

1. Introduction

Society is shaped by numerous contributions and activities people make to enrich it, but currently there is a lack of an established means to recognize and include these contributions in a compensation system. Often, acts of helpfulness are rewarded with words of praise and gestures of appreciation, certificates and mementos, and sometimes with acclamation in the media. At times, the individuals performing kind acts need no monetary reward, but often people are not so fortunate economically. An act of kindness may present an opportunity for monetary compensation. Valuing good acts with money allows society to take care of individual's need, as many benevolent acts can be done by individuals who are unemployed yet eager to contribute. This is an area worth study in the context of multi-criteria decision-making. Compensating people for contributions that are not strictly economic but are humane and intangible would benefit society. Our model can formally prioritize all criteria and activities systematically, and determine the worth of the service offered and the potential for exchange to enrich ordinary people's life.

2. Quantifying the relative value of altruistic acts

Different services to society have different values. The amount of "value" exchanged in any transaction should not be arbitrary or negotiable but carefully planned and evaluated. Conventional AHP models are versatile for prioritizing and assessing alternatives. However, when facing numerous alternatives of significantly different scale, decision makers find it hard to put all alternatives together in one matrix and compare them simultaneously. In order to address the issue, we proposed a new Analytic Hierarchy Process-based structure to capture the complex relationship between various levels of activities. The proposed method can not only help establish exchange standards for benevolent acts in communities where products or services may encompass a variety of skills, experience, training, equipment, or risk; but also reduce uncertainty in the evaluation process and outcome.

Without the proposed model, we may not be able to tackle incomparable alternatives or many alternatives that require a very large number of comparisons. Only comparable items can be compared and used to calculate meaningful priorities. We show how to use clustering and pivots to handle the difficulties of having too many alternatives. Through the proposed method, we expand the comparison scale, build a near-consistent matrix, and show how to manage incomparable alternatives. The proposed method makes it possible to effectively derive priorities for alternatives with orders-of-magnitude differences (Saaty & Shang, 2011).

3. AHP for prioritizing intangible humane acts: contributions to society

To differentiate divergent intangible humane acts, we develop a cluster and pivots method to capture the relationship among numerous activities contributed by people to society. It avoids the enormous number of pairwise evaluations required for completing large matrices. The proposed model has three distinct steps:

1) For each criterion, group alternatives into clusters. Decision makers must decide which alternatives should be in the same cluster, as grouping is a subjective task. Heuristically, we can compare the best ordered alternative sequentially with the next ones, from the second best to the worst, until facing the comparison value of 9 or the cluster comprising seven elements. The highest ranked-alternative in this cluster is the pivot of the adjacent clusters, and is the smallest among the remaining alternatives. The same process is repeated until all clusters are linked.
2) All alternatives of the same cluster are compared and prioritized.
3) Priorities of all clusters are linked with the pivot (common element belonging to two adjacent clusters) being used to merge adjacent clusters.

4. Model results of the benevolent acts

We examine the benevolent activities from the perspective of human needs. In Figure 1, we modify Maslow's hierarchy of needs (1943) to derive criteria for evaluating acts through which people contribute (see Figure 1 for the criteria). They are broken down into 12 sub-criteria. Following the three steps outlined in Section 3, we obtain the final score of each act (see Figure 2), e.g. the final synthesized value of global disease cure is

1,140,230,056 times more important than complimenting people in terms of meeting human needs.

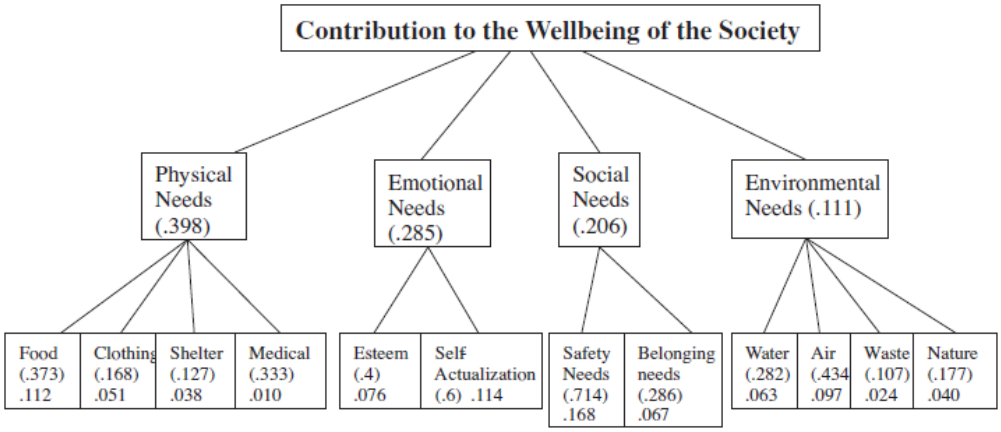

Figure 1. The criteria, sub-criteria and corresponding weights

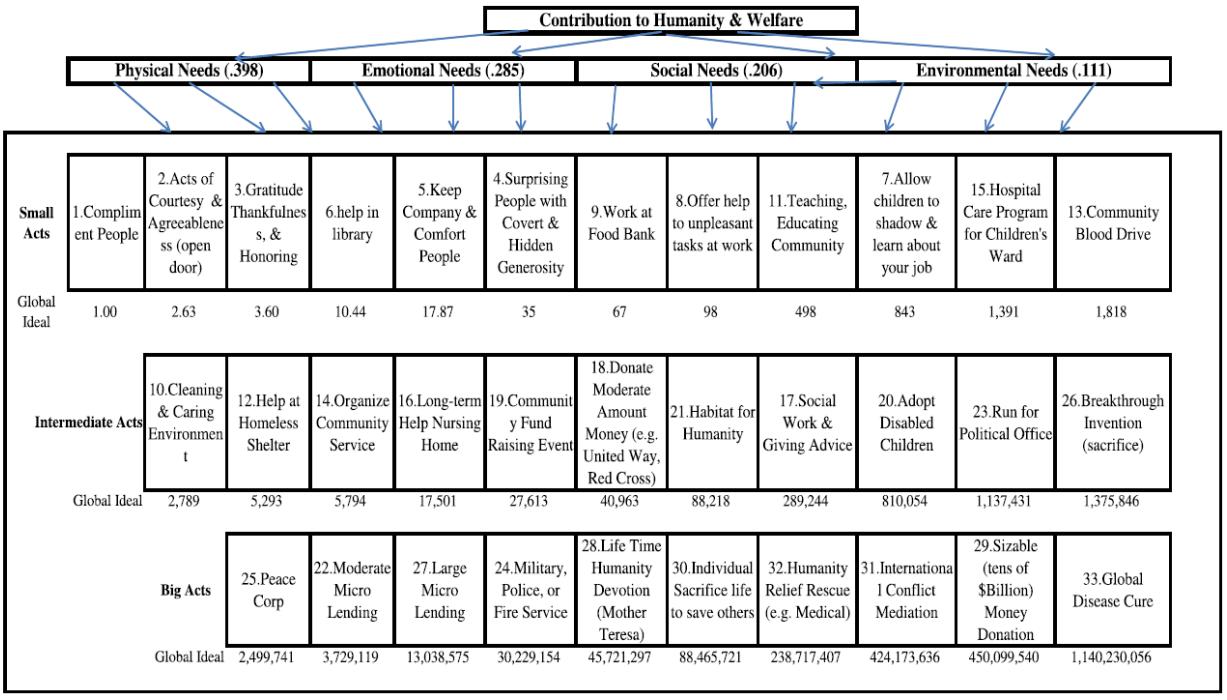

Figure 2. The final priorities of all studied benevolent acts

The clustering approach adopted here is critical, as decisions may involve several groups that differ by orders of magnitude from one another. The proposed model allows comparing alternatives if we cluster objects into groups and pivot the largest element in one group as the smallest element in the next group. The priorities in two adjacent groups

should be sufficiently different such that the ratings of the smaller set have impact on the judgment of the larger set. This rearrangement of the alternatives has to be done several times, once for each of the criteria.

5. Conclusion

Kostigen (2009) believes health, welfare, prosperity, leisure, family, and social connections are reasons for happiness. These intangibles are at the heart of all pursuit, especially socio-economic endeavors. Hubbard (2007) writes that it is important to develop a method to explain, measure, value, and manage intangibles. In this paper, we follow their advice and look at humane acts from various angles concentrating on existing acts that increase society's wellbeing.

We have proposed an AHP model to capture relationships between altruistic activities, which may be used to better society. The approach is coherent; it structures complex decisions and enables one to transcend the complexity of dealing with problems of orders of magnitude scientifically. When the magnitudes are very small or very large, rating alternatives one at a time involves a lot of guessing, leading to questionable outcomes. Instead, comparing alternatives in pairs seems to be necessary for the measurement of intangibles and may result in greater accuracy. Through comparisons, we arrange alternatives into homogeneous clusters. We then pivot from one homogeneous cluster to the adjacent one to relate humane acts with diverse orders-of-magnitude.

We are facing a divided society where people have to choose between accepting sacrifices for the common good and focusing on protecting one's own interests. Appeals to the common good are often heard when discussing corporate social responsibility, health care systems, environmental pollution, education, crime, and poverty (Velasquez et al., 1992). We believe that a community where people reach out and help each other would be a happier one.

By exploring a society's valuation system where people can enumerate and acquire credits for their services, we create "social units" to help society recognize the contributions for all the meaningful efforts people exert. The proposed AHP model offers an objective worth and a common medium of exchange to store values. When benevolent activities are acknowledged, dormant social potential is awakened for further development. Our model serves to raise the awareness of how to live an "affluent" life

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