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QUANTIFYING THE ROLE OF PERSONAL MANAGEMENT STYLE IN THE SUCCESS OF INVESTMENT PORTFOLIOS

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ABSTRACT
It is extremely difficult to quantify the effect of different management styles of portfolio managers upon the success of their portfolios. Various mathematical models in the literature attempt to predict the risk and returns of portfolios according to changes in the economic arena, but these models usually do not take into account the personal styles of portfolio managers. The aim of this paper is a modest attempt at quantifying the effect of different managerial styles upon decisions regarding portfolios. This is accomplished by the formulation of a mathematical performance index that portrays the influence of a portfolio manager's personal and managerial characteristics on the success of his portfolio.

Keywords: investment portfolio, management style, risk, performance index.

1. INTRODUCTION

In less than a generation, the field of investment decision making has undergone a major transformation. Decisions regarding the investment process are primarily concerned with how investors go about investing their capital and particularly with the size as well as timing of investments. More sophisticated decision making tools have replaced methods based on investment–selection experience as well as other more traditional methods. These tools increasingly include mathematical models which have evolved from relatively modern theories regarding risk distribution and investment balance [7, 8].

Investments are typically made in real-estate, in bonds, in cash and in equities. This paper is concerned with investments made in the equity market, and more specifically, with the issue of whether the personal characteristics of the manager of an investment fund can add value to the performance of the fund, and how this value may be quantified.

The question is often raised whether it is necessary to attempt an analysis of the role of portfolio management style in the success of the underlying portfolio(s). Haines [12] concludes that manager style should indeed be included as one of the risk factors in multifactor prediction models for expected return, since the style of a manager largely dictates the economic environment in which the manager may outperform. Sharpe [11] agrees that the success of a manager is dependent upon his classification into a style mandate. Extensive methods exist for the classification of managers into style mandates [2, 5, 6, 9, 12] and these classifications prove to be valuable attempts to quantify the risk of a portfolio added by managerial style. However, this classification of managers into style mandates is not sufficient to portray the value added by a manager to his portfolio. The shortcomings of the above–mentioned approaches are often directly attributed to the fact that personal characteristics of managers are not taken into account [1, 9, 12]. Little has been done in the literature to quantify the influence on the success of an investment portfolio of the personal characteristics and skills possessed by portfolio managers.

The aim of this paper is to take a first step towards the quantification of something as vague as personal characteristics, by putting forward a method for formulating a mathematical performance index which portrays the success of a portfolio manager according to personal characteristics within a specific style mandate. We start by describing an interviewing method in §2 that was used to identify a number of personal characteristics of portfolio managers which may or may not influence the return of their portfolios and which are applicable in the South African emerging market context. In §3 and §4 a method is described that was used to determine to what extent the characteristics identified in §2 are inherent to specific portfolio managers. This quantification may be achieved by means of a questionnaire in which each question targets a different characteristic identified previously by the Repertory Grid method. Managers within different investment mandates should be evaluated on each question to obtain ratings representative of each characteristic, after which a χ^2–test may be used to identify those characteristics applicable in each mandate. These characteristics are then used in §5 during the formulation of a performance index per investment mandate, by solving a least squares problem. The calculation of weights occurring in the performance index is illustrated by means of example in §6, after which we discuss a few possible practical uses of the performance index in §7. We conclude the paper by summarising what has been achieved and by reflecting upon possible improvements and further work.

2. IDENTIFYING PERSONAL CHARACTERISTICS

Several market research methods and other scientific methods exist for the identification of a wide variety of detailed social attributes and preferences of individuals, and one of these methods is the acclaimed *Repertory Grid* method. This method, attributed to George Kelly [13], was originally developed in 1955 for the purpose of psychological analyses, but has since found wide use in the study of consumer preferences. The method was employed in the present study to conduct a number of interviews at a large participating asset management company in an attempt to identify management characteristics which might possibly influence the success of a portfolio. The *Repertory Grid* method is based on the formulation of elements and on the subsequent comparison of the attributes of these elements by means of the formulation of bipolar constructs. The elements therefore define the nature of the interview, while the bipolar phrasing of the interviewee's comparison of and differentiation between the elements enables the interviewer to refrain from drawing conclusions concerning the constructs, thereby ensuring a minimal amount of interviewer bias. Furthermore, the restriction that the interviewee should focus on the identification of similarities and differences between the specified elements, while refraining from unsubstantiated general opinions or feelings, ensures little or no interviewee bias.

2.1 USING THE REPERTORY GRID METHOD

Interviews were conducted with 12 participating portfolio managers and/or analysts. Each interviewee was asked to name 6 portfolio managers as elements (not necessarily from the participating group): 3 managers whom the interviewee considered highly successful *in terms of the record of return of their portfolios*, and 3 managers who were regarded as less successful in this respect. The phrase "in terms of the record of return of their portfolios" provided the interviewee with a frame of reference for the selection of elements. The distinction between successful and less successful managers resulted in a group of inhomogeneous portfolio managers as elements, thereby ensuring that it would indeed be possible to identify a number of definite similarities and differences between the elements during the interview.

After the elements had been identified, each interviewee was asked to repeatedly focus on specific combinations of 3 elements (each combination containing at least one highly successful manager and at least one less successful manager), to identify similarities between *any* two managers and to point out in each case how the similar pair of managers differed from the third *in terms of personal characteristics.* Similarities and differences between the elements were *not* required to coincide with the distinction between successful and less successful managers. The phrase “in terms of personal characteristics” ensured that the constructs were shared or unique personal characteristics from a triad of managers, as observed by the interviewees.

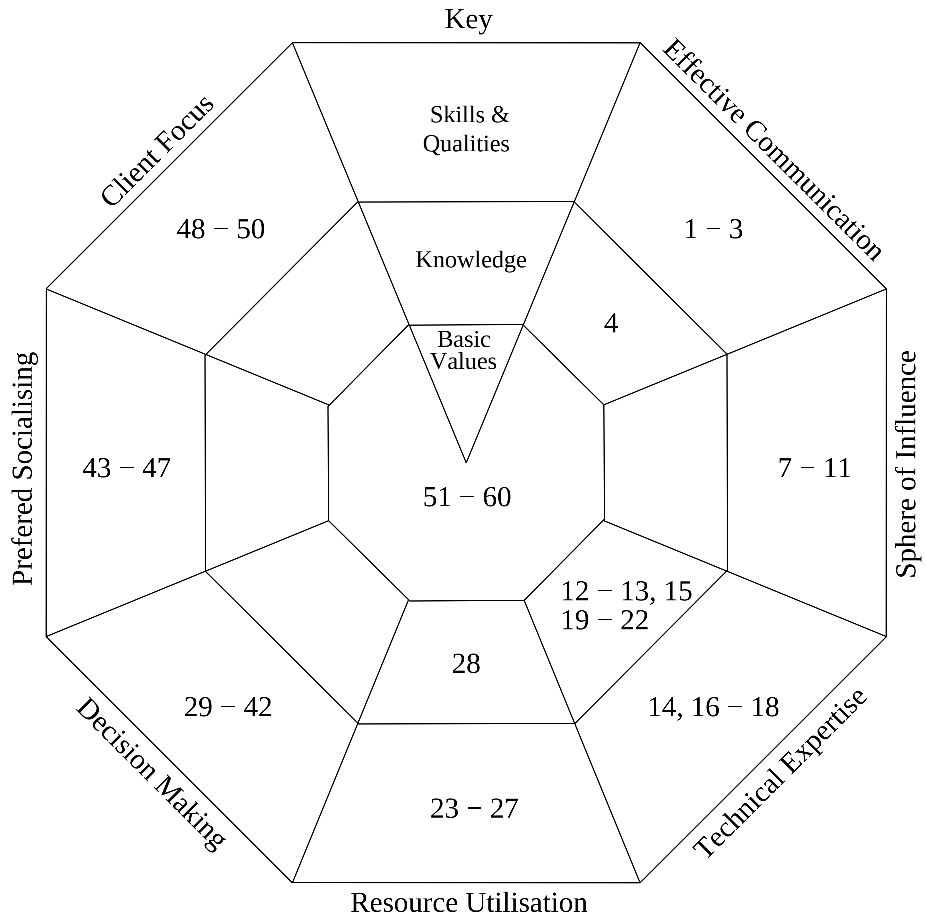

Figure 1: Classification of character–constructs of portfolio managers into 8 construct sectors.

The character–constructs resulting from these interviews were noted verbatim to ensure that a characteristic or attribute could later be understood in the original context in which it was meant, thereby reducing interviewer bias. These interviews resulted in the identification of sixty bipolar character–constructs.

2.2 PROCESSING OF DATA FROM REPERTORY GRID INTERVIEWS

The sixty bipolar character–constructs indentified during the Repertory Grid interviews with the participating portfolio managers were examined and classified into eight broad groups to which we shall refer as construct sectors: Effective Communication, Sphere of

	← Pole 1	Pole 2 →
	Effective Communication	
1.	Has difficulty expressing himself in his second language	Completely bilingual
2.	Has difficulty expressing himself in a concise manner	To the point
3.	Not very approachable	Very approachable
4.	Lacks knowledge of human nature	Has a good knowledge of human nature
5.	Handles stress quietly	Handles stress by exploding
6.	Prefers one–to–one contact	Comfortable in making a presentation to a large group of people
	Sphere of Influence	
7.	Is a follower	Is a leader
8.	Will go with the majority view	Will take minority view if he believes in it
9.	Does not earn respect easily	Well respected by colleagues
10.	Cannot motivate a team	Able to motivate a team effectively
1.	Cannot delegate effectively	Able to delegate effectively
	Technical Expertise	
12.	No appropriate academic qualification	Has an appropriate academic qualification
13.	Only a few years experience in portfolio management	Many years experience in portfolio management
14.	Has fixed ideas	Continually re–examines concepts
15.	Has a focused knowledge of the market	Has a broad knowledge of the market
16.	Is not much sought after by companies	Much sought after by companies
17.	No confidence to trade on his personal account	Has confidence to trade on his personal account
18.	Will not easily outperform a down market	Will easily outperform a down market
19.	Previous experience attained at small companies	Previous experience attained at large companies
20.	Has experience in a different sector than currently employed	No experience in a different sector than currently employed
21.	Employed by many different companies in the recent past	Employed by the present company for a number of years
22.	Does not have a good overall idea of portfolio management process	Has a good overall idea of portfolio management process
	Resource Utilisation	
23.	Waits for information to reach him	Tries to obtain information as quickly as possible
24.	Slow to process new information	Processes new information as quickly as possible
25.	Does not act on gut feeling, only on facts	Acts on gut feeling, by researching reasons for gut feeling
26.	Dependent on recommendations by researchers	Is inquisitive and does own research and analysis
27.	Wastes time	Utilises time very efficiently
28.	Does not use information from external business contacts	Often uses information from external business contacts

Table 1: First 28 bi–polar character constructs identified during the Repertory Grid interviews.

	← Pole 1	Pole 2 →
	Decision Making	
29.	Does not have a good feel for the market	Has a good feel for the market
30.	Has difficulty making quick decisions concerning large sums	Able to make quick decisions concerning large sums
31.	Decisions are largely unpredictable	Decisions are completely predictable
32.	Uses a few established methods	Combines different methods (old and new) for decision making
33.	Disorganised and unsystematic in decision making	Very organised and systematic in decision making
34.	Relies strongly on previous experience of the market	Consentrates on present situations
35.	Relies on team to help with decisions	Makes decisions individually
36.	Decisions focus on a part of the economy	Decisions are global
37.	Does not bother to look into the actions of the opposition	Studies the actions of the opposition and acts accordingly
38.	Decisions seem random	Decisions are scientifically justifiable
39.	Seldom restructures porfolio (passive management)	Often restructures portfolio (active management)
40.	Normally has a pessimistic outlook on the market	Normally has a optimistic outlook on the market
41.	Will use internal information to trade on personal account	Will not use internal information to trade on personal account
42.	Does not consider the recommendations of researchers	Often considers the recommendations of researchers
	Preferred Socializing	
43.	Single	Married
44.	Loner	Prefers socialising in groups
45.	Socialises with friends	Family orientated
46.	Unpopular amongst colleagues and clients	Very popular amongst colleagues and clients
47.	Disloyal towards team	Always loyal towards team
	Client focus	
48.	Not interested in building management contacts	Makes sure that he has good management contacts
49.	Bad marketer	Excellent marketer
50.	Has impersonal approach to companies	Associates a company with its people
	Basic Values	
51.	Gives up easily	Exhibits perseverance
52.	Calm	Energetic
53.	Does not have a balanced lifestyle	Has a balanced lifestyle
54.	Does not have a true passion for his occupation	Has a true passion for his occupation
55.	Serious person	Cheerful person
56.	Not driven by achievement	Strong will to achieve
57.	Distrusts people in general	Trusts people completely
58.	Lack of integrity leads to discussion of trade secrets	Integrity prevents him from discussing trade secrets
59.	Boasts about success	Modest about success
60.	Blames others for mistakes	Takes responsibility for mistakes

Table 2: A further 32 bi–polar character constructs identified during the Repertory Grid interviews.

Influence, Technical Expertise, Resource Utilisation, Decision Making, Preferred Socializing, Client Focus and Basic Values.

The first seven construct sectors are local in the sense that they represent different personal attributes which may or may not have a bearing on the success of specifically *portfolio management*, while the last sector, *Basic Values*, represents those character–constructs or convictions inherently present or absent in all individuals, irrespective of whether they are portfolio managers. The *Basic Values* sector of constructs are considered practically unalterable human values and therefore appear global to all seven other construct sectors. The character–constructs contained in the *Basic Values* sector represent basic building blocks of personality, while the character–constructs of the seven local sectors were sub–divided further into two sections:

1. *Knowledge*: the collection of data and facts as well as the understanding of concepts and relations which are relevant to a particular aspect of portfolio management.

2. *Skills*: the ability to complete various smaller tasks or responsibilities concerned with portfolio management, in other words how knowledge is applied in practice [3].

A graphic representation of the above mentioned classification of character–constructs is shown in Figure 1: the 7 local construct sectors appear as circle sectors, while the sub–divisions into knowledge and skills sections appear as concentric circles, with the global construct sector of basic values in the middle. The constructs themselves are listed in Tables 1 and 2, with the numbers in Figure 1 corresponding to those in Tables 1 and 2.

<table>
<tr><td colspan="2">Question 31.</td><td>1. (←)</td><td>2. (?)</td><td>3. (→)</td><td>N/A</td><td></td></tr>
<tr><td rowspan="4">Decisions are largely unpredictable</td><td>Manager 1</td><td></td><td></td><td></td><td></td><td rowspan="4">Decisions are completely predictable</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td>Manager 2</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Manager 3</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7"><u>Comments</u></td></tr>
</table>

Table 3: Example format of a bipolar character–construct evaluation in the questionnaire of Manager 1 by himself and two other managers. If option ‘1. (←)’ [‘3. (→)’, respectively] is marked, it would mean that decisions of the manager in question are largely unpredictable [completely predictable, respectively], while option ‘2. (?)’ would mean that sometimes the decisons of the manager in question seem predictable, and sometimes not. Marking the ‘N/A’ space would mean that the question seems not applicable to the manager in question, for some reason, which may be stated in the ‘Comments’ box.

3. QUANTIFICATION OF PERSONAL CHARACTERISTICS

As a first step towards the quantification of management characteristics, a questionnaire may be designed to be completed by a number of participating portfolio managers. The questionnaire should contain bipolar questions, each targeting the core of one of the character–constructs identified during the Repertory Grid interviews, as shown in Tables 1 and 2. Each bipolar question in the questionnaire may be answered on a scale from one to three, thereby enabling a numerical evaluation of the degree to which the underlying character–construct is present or absent in an individual. An example of a question is given in Table 3. The questionnaire may be divided into 8 sectors, coinciding with the eight construct–sectors listed in Figure 1, and should ideally be completed by a large number of portfolio managers in each of the five different investment mandates listed in Table 4. Moreover, each of the managers being assessed should be evaluated at least three times; once by himself and twice or more by colleagues. The rounded averages of the ratings obtained from these evaluations may then be used as quantifications of the character–constructs present in the participating managers, in an attempt to average out personal bias.

1.	Standard funds
2.	Aggressive funds
3.	Unique funds
4.	Trust funds
5.	Fixed interest funds

Table 4: Typical portfolio investment mandates

4. FINDING DESIRABLE CHARACTERISTICS WITHIN MANDATES

In order to capture that particular subset of bipolar constructs (from the total set of 60 constructs listed in Tables 1 and 2) that is deemed relevant when defining a performance index within a specific investment mandate, ℓ (say), an observed frequency table such as the one shown in Table 5 may be constructed for each construct and each investment mandate. χ^2–tests may then be used to differentiate between relevant and irrelevant character–constructs per investment mandate. The competing hypotheses

$H_0(i,\ell)$: The ratings of investment mandate ℓ managers on bipolar construct i is independent of their success values (portfolio returns)

$H_1(i,\ell)$: The ratings of investment mandate ℓ managers on bipolar construct i is not independent of their success values (portfolio returns) are to be considered at a $100\alpha\%$ significance level. The null hyptothesis may be rejected in favour of the alternative hypothesis $H_1(i,\ell)$ if the usual $\chi^2(i,\ell)$ value exceeds the tabulated four–degrees–of–freedom χ^2–value corresponding to the desired significance level.

Style mandate ℓ success $\downarrow$	Rating on bipolar construct i Pole 1	Neutral	Pole 2
Low	$f_{11}(i,\ell)$	$f_{12}(i,\ell)$	$f_{13}(i,\ell)$
Medium	$f_{21}(i,\ell)$	$f_{22}(i,\ell)$	$f_{23}(i,\ell)$
High	$f_{31}(i,\ell)$	$f_{32}(i,\ell)$	$f_{33}(i,\ell)$

Table 5: Observed frequency table of style mandate ℓ managers classified according to the success of their portfolios and their ratings on bipolar construct i.

In this way five lists of relevant personal characteristics, corresponding to the five investment mandates, may be formed. Let us assume that the relevant characteristics for investment mandate ℓ are numbered $E_1(\ell), E_2(\ell), \ldots, E_{n_\ell}(\ell)$, using the numbering of Tables 1 and 2, for each $\ell = 1, \ldots, 5$.

5. FORMULATION OF A PERFORMANCE INDEX

Consider an additive performance index for style mandate ℓ of the form

$$I(\ell,p) = \sum_{i=1}^{n_\ell} A_{E_i(\ell)}(\ell,p) x_{E_i(\ell)}(\ell), \tag{1}$$

where $A_{E_i(\ell)}(\ell,p)$ represents the rating (on a scale from 1 to 3) corresponding to the bipolar character–construct $E_i(\ell)$ of any manager p to be evaluated by the index in future, while $x_{E_i(\ell)}(\ell)$ denotes the weight of this character–construct, which is in turn predetermined by using the information gathered from a so–called training set of investment mandate ℓ managers, for each $\ell = 1, \ldots, 5$.

The choice of such a simple additive structure for our performance index poses several disadvantages. One such disadvantage is that the index does not provide for the hypothetical case where two positive character–constructs, in conjunction with one another, may have an overall negative effect on the return of a certain style mandate portfolio. This problem could, in principle, be resolved by rather considering a non–linear index of the form

$$I'(\ell,p) = \sum_{i=1}^{n_\ell} A_{E_i(\ell)}(\ell,p) x_{E_i(\ell)}(\ell) + \sum_{1 \leq i < k}^{n_\ell} B_{E_i(\ell)E_k(\ell)}(\ell,p) x_{E_i(\ell)}(\ell) x_{E_k(\ell)}(\ell),$$

where $B_{E_i(\ell)E_k(\ell)}(\ell, p) \leq, \geq 0$ represents the influence of the combination of character–constructs $E_i(\ell)$ and $E_k(\ell)$ on the return of an investment mandate ℓ portfolio. However, such a non–linear index structure significantly complicates the ensuing mathematical analysis, while still being exposed to certain shortcomings, such as whether a mathematical value for $B_{E_i(\ell)E_k(\ell)}(\ell, p)$ makes any sociological or psychological sense. Because of the vague nature of personal characteristics, it is, furthermore, not clear which alternative kind of non–linearity would be suitable for the purpose in hand. Hence we chose to abide by the linear combination (1).

It is expected that a performance index should at least estimate as accurately as possible the success of the training set of participating managers from whom information was obtained for the determination of the index weights. Therefore, a naive approach towards the computation of the weights $x_{E_i(\ell)}(\ell)$ would be to solve the system

$$\sum_{i=1}^{n_\ell} c_{E_i(\ell),j}(\ell) x_{E_i(\ell)}(\ell) = s_j(\ell), \qquad j = 1, \ldots, m_\ell, \tag{2}$$

where m_ℓ denotes the number of investment mandate ℓ managers in the training set, $c_{E_i(\ell),j}(\ell)$ denotes the rounded average rating of mandate ℓ manager number j for character construct $E_i(\ell)$ and $s_j(\ell)$ denotes the normalised success value of style mandate ℓ manager number j in the training set (i.e., a normalised return rate on his portfolio), $i = 1, \ldots, n_\ell, j = 1, \ldots, m_\ell$. If we define

$$\mathbf{C}(\ell) = \begin{bmatrix} c_{E_1(\ell),1}(\ell) & \cdots & c_{E_{n_\ell}(\ell),1}(\ell) \\ \vdots & & \vdots \\ c_{E_1(\ell),m_\ell}(\ell) & \cdots & c_{E_{n_\ell}(\ell),m_\ell}(\ell) \end{bmatrix}$$

and if $\text{rank}[\mathbf{C}(\ell)] = n_\ell$, then the system (2) may be solved for unique, non–trivial values of $\underline{x}(\ell) = [x_{E_1(\ell)}(\ell), \ldots, x_{E_{n_\ell}(\ell)}(\ell)]^T$. However, if $\text{rank}[\mathbf{C}(\ell)] > n_\ell$, then no solution exists for the system in question. It would be folly to attempt to choose the number of investment mandate ℓ managers in the training set so as to conjure $\text{rank}[\mathbf{C}(\ell)] = n_\ell$, in order that an exact solution to the system (2) may be found. The reason for this being that, in order to obtain more representative results, m_ℓ should be allowed to increase with the increase of available investment mandate ℓ portfolio managers in the training set, in which case the inequality $\text{rank}[\mathbf{C}(\ell)] > n_\ell$ is almost certain to emerge. This problem was overcome by rather solving a least squares problem of the form

$$\min_{\underline{x}(\ell)} ||\mathbf{C}(\ell)\underline{x}(\ell) - \underline{s}(\ell)||^2, \tag{3}$$

which may also be viewed as an unconstrained quadratic programming problem. Because the matrix $\mathbf{C}(\ell)$ is positive, it is also positive definite and hence there exists a unique global solution to (3), given by the solution to the linear system

$$\mathbf{C}^T(\ell)\mathbf{C}(\ell)\underline{x}(\ell) = \mathbf{C}^T(\ell)\underline{s}(\ell), \tag{4}$$

where $\underline{s}(\ell) = [s_1(\ell), \ldots, s_{m_\ell}(\ell)]^T$. The system (4) may be solved very rapidly via gaussian elimination, even for large values of n_ℓ and/or m_ℓ.

6. AN EXAMPLE

Let us illustrate the process of calculation of the index weights in (1) by means of an example with fictitious evaluations of an unrealistically small number of managers in the training set, due to a lack of sufficient realistic training data.

Manager →	1	2	3	4	5
Success →	1.0000	0.6493	0.5991	0.5156	0.4721
Construct ↓	Bipolar constuct ratings				
2	3	2	2	3	2
15	2	2	3	2	1
18	3	1	2	2	2
38	3	3	2	1	1
Index value →	0.9833	0.6582	0.6007	0.5063	0.4993

Table 6: Normalised success ratings and average rounded ratings of 5 particpating managers (the training set) with respect to 4 bipolar constucts.

Consider the hypothetical situation where the training set for the performance index within a certain investment mandate consists of 5 portfolio managers, and that the only bi–polar constructs which are not deemed independent of success ratings in this investment mandate at an appropriate significance level are constructs 2, 15, 18 and 38 in Tables 1 and 2. Suppose normalised success ratings (normalised returns of portfolios) and the average rounded ratings of the 5 managers in the training set with respect to these constructs are given in Table 6. Note that the managers have been numbered in order of decreasing success rate, for the sake of later convenience. The appropriate index weights may be found by solving the linear system (4), which yields

$$\underline{x}(\ell) = [0.0399, -0.0329, 0.1426, 0.1672]^T.$$

The signs of the weights would suggest that pole 2 should be regarded as the desired or positive pole for bipolar constructs 2, 18 and 38, with respect to achieving success in the specific investment mandate, while pole 1 should rather be considered the positive pole for construct 15. With these weights the index is able to deliver fairly accurate success representations (index values) for managers in the training set, as shown in the bottom row of Table 6.

Let us now consider the evaluation and success placement of a hypothetical manager X outside the training set, with respect to the managers in the training set. Suppose the questionnaire ratings for manager X with respect to character constructs 2, 15, 18 and 38 are 2, 3, 3 and 3 respectively. Then potential value added by manager X to his mandate ℓ portfolio is modelled by the performance index value

$$I(\ell, X) = 2 \times 0.0399 - 3 \times 0.0329 + 3 \times 0.1426 + 3 \times 0.1672 = 0.9105,$$

thereby placing manager X second in the success rating hierarchy (just after training set manager 1 and just before training set manager 2) in terms of value potentially added to his portfolio as a result of personal characteristics possessed by him.

7. PRACTICAL USES OF THE PERFORMANCE INDEX

Since the mid–1990's the multi–manager approach has attracted considerable attention (and capital) in the investment industry. This approach entails that a portfolio manager entrusts the management of the different asset classes (cash, bonds, equities) or financial sectors (such as Mining Resources, Financials, Industrials, Consumers and Information Technology) within his portfolio to specialist managers or teams of various asset management companies. One of the characteristics that make multi–manager investments so attractive is that the client's investment is not exposed to the investment views of a single individual or team, nor even to the investment views of a single company, but to the views of the best specialist individuals or teams in the industry [14]. However, the success of such an investment is obviously very dependent upon the correct decisions of a number of role players [10].

The task of the portfolio manager within the multi-manager environment is to make the very crucial asset class and financial sector allocation decisions, select the appropriate specialists to manage the proportion allocated to each asset class and financial sector according to the specialist's past and expected future performances. If the seemingly unpredictable and sometimes extremely volatile financial markets are taken into account, being successful becomes a challenging task and it becomes more important to choose the correct managers. The performance index developed in §5 may be used as a valuable tool in understanding the strengths of one manager relative to another and using this information as a qualitative input to the investment decision process.

The performance index can also add value in the process of questioning whether the information provided by asset management companies regarding their managers is in actual fact accurate. Examples of such applications of the performance index are:

- In some teams it may occur that the success of the group is heavily reliant on the decision–making abilities of a single individual. The risk of investing in such a team is increased by the possibility of the specific key individual leaving the team, resulting in money left to be managed by a less skilful team. In practice, a company will seldom acknowledge the fact that a team is reliant on a key individual. Therefore, a performance index may prove valuable in testing the team characteristics of a group to whom money is entrusted.
- If a multi–manager seeks a manager for a specific asset class (cash, bonds or equities), it is especially important to match the manager's qualities to the specialised investment mandate. The reason being that, with broader investment mandates, weaker investment areas are usually balanced out by the manager's strong points, but with specialised asset class management a mismatch of skills may be more detrimental. A manager's qualities can be tested via performance indices for the different asset classes in order to conclude whether he is employed to manage the asset class for which he is most suited in terms of personal characteristics.
- Financial services companies and asset managers each market a specific investment culture together with their investment offering. If one makes use of a specific company's products because one buys into or believes in their proclaimed investment culture, the performance index may be used to ascertain whether the investment professionals fit the specific cultural profile.

8. CONCLUSION

A linear performance index was formulated in this paper in an attempt to quantify the added value of the personal and managerial characteristics of a portfolio manager with respect to the success of his investment portfolio within a given style mandate. This index consists of a linear combination of portfolio manager evaluations on a variety of personal characteristics identified objectively during interviews with a number of portfolio managers. These interviews were conducted using the scientifically acclaimed Repertory Grid interview method, thereby ensuring both a minimal amount of interviewee/interviewer bias as well as data which is applicable to the South African emerging economic context. The specific linear combinations which appear in the index may be derived by using questionnaire data from managers in a so–called training set, who are considered representative of the investment mandate under consideration.

The accuracy of the performance index of course depends heavily on the representiveness and number of the participating managers in each investment mandate. We could perform neither the quantification of character–constructs via the questionnaire nor the classification of relevant character–constructs per investment mandate, due to an insufficient number of portfolio managers at our disposal at the participating asset management company. Each asset management company employs a limited number of portfolio managers, and the sensitivity of the managers' details prevent inter–company exchange of data. However, the multi–manager approach discussed in §7 is followed by, among others, large institutional investors (pension funds) and pooled accounts of financial services companies, where a substantial portion of the industry's money lies. Within the competitive environment in which asset management companies operate, it is imperative to the business to secure as much of these funds as possible. However, at the same time these companies must retain their competitive edge in order to survive. It is very important that they do not obtain these funds at the expense of their competitive advantage. Because multi–managers need privileged information from various asset management companies, they are bound by contracts of confidentiality, not to discuss information obtained from one company with another. A company who still denies the multi–manager access to the information which will enable him to make the most informed decision, will most probably not be allocated the money, as incomplete information increases the investment risk. This, in turn, places pressure on the specific company to adhere to industry norms and provide multi–managers with detailed qualitative and quantitative information. It would therefore be possible for a multi–manager to collect data from the majority of asset management companies in order to construct a representative performance index per investment mandate.

Further work may include (i) generalisations of the simple linear structure of the index in order to avoid the underlying assumption made here that different management and personal characteristics are additive and (ii) proposals for exactly how performance indices, such as the one presented here, may be incorporated into existing multifactor models for risk and return prediction.

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