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INFORMATION POTENTIAL OF THE LEADERSHIP DIAMOND MODEL: CONDITIONS OF ITS DETECTION AND USE IN PUBLIC ADMINISTRATION

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ABSTRACT

The article explores the information potential of the Leadership Diamond model and substantiates the conditions of its detection and use in public administration. The expediency of supplementing traditional assessment of leadership interpretation of the vision, ethics, reality, and courage scores under the Leadership Diamond model with additional (secondary) scores through deepening their common interpretation is justified. A new interpretation allows assessing the overall level of leadership of an individual (the level of approximation to the norm of Great Leader) and four derivative additional characteristics (levels of fairness and reliability, moderation and selflessness, courage and piety, wisdom and ability). The proposed method of interpretation provides with an opportunity and information for analytical research and comparison of individual and group scores, identification of personal and group minimum (weaknesses) and maximum (strengths), allows making decisions on substantiated selection, the formation of individual and group development trajectories, improvement and correction of leadership skills of public servants. Therefore, the perspective of further research is the use of this method to develop the level of wisdom and ability of public servants through design thinking methodology.

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Introduction. Since the emergence of theoretical foundations, the development of models and technologies, instruments, and practical recommendations concerning mastering and effective use of personal potential by leaders of human communities, a number of scientists and practitioners have

generated a lot of material. Hundreds of monographs, thousands of articles and tens of thousands of recommendations produced by scientists, mentors, coaches, and consultants have filled the scientific and para-scientific space. A Google search generates 22,800,000 results for the word “leadership” in the Ukrainian language alone and 1,130,000,000 results in English. At the same time, the network search of the important terms for the national realm in Ukrainian gives out fewer positions, with only 3 150,000 results for the notion “moral leadership”, 1,980,000 results for the term “digital leadership”, 952,000 – for “collective leadership”, and 585,000, 178,000 and 3,930 for the terms “service leadership”, “cognitive leadership” and “human-centered leadership” respectively.

Thus, from the scientific-theoretical standpoint and the standpoint of practical use, the topic of leadership is thoroughly studied today by both global and domestic schools of management. Nonetheless, the need to improve and expand the well-known approaches, models, tools, and technologies and to generate innovative ones motivates the search for new solutions in public administration. A good example of this statement is a collection of more than 100 leadership models, the author of which drew attention to the fact that “most leadership models are visually interpreted as a circle” (Haak, 2020).

However, it should be noted that there is an entire group of leadership models by other authors visualized as a diamond whose facets present criteria of characteristics essential for a leader, basic principles, components, or areas of its effectiveness in public administration. We consider it necessary to include into the group of “diamond” models the following: the famous Diamond Model of Leadership by Clawson (2009); the Leadership Diamond® by Koestenbaum (2000) which was popularized by Coskey Fracchia (2015), Elliott (2008), and Lafferty (2011) and improved by Dzvinchuk & Petrenko (2017b), Dzvinchuk et al. (2018b); the Diamond Model of Shared Leadership by Gunter (2007) which was interpreted by Felton (2016); the Diamond of Ethical Leadership by Kaptein (2015); the Leadership at the Scale Diamond (LeadershipNow™, 2019) and others.

The above examples give a clear idea that leadership models based on the use of geometric features of diamonds are a common and quite popular interpretation of a set of 4 requirements for potential leaders of human communities.

Unresolved issues. It is worth pointing out that most of the mentioned models remain at the level of model-recommendations, which present a list of desired personal leadership characteristics and traits. Only a small part of them provides the opportunity to assess the necessary components of leader’s success and outline recommendations for their improvement and development. At the same time, the information potential of even these models remains incompletely used both in the practical activities of managers of public authorities and in the processes of assessing their state, needs to develop, dynamics of change, and so on.

Meanwhile, there is an excellent example of the use of such geometric structures for calculation and interpretation of assessment results by the level of providing criteria located on the facets of the diamond to form quantitative and qualitative assessments of the participation of the women leaders in such branches of government as the executive, legislative, security, and judicial (Hughes et al., 2014, p. 2).

It is important to note that among all the above models of leadership diamonds, the model proposed by Koestenbaum (2002) is the closest to solving the problem of personality assessment regarding satisfaction with the components of the leadership vocation and formulation of recommendations for their further development, as it allows assessing the level of provision of each of the established by the “Leadership Diamond” model list of criteria such as vision (V), ethics (E), reality (R), and courage (C) in the range of possible estimates 0 ÷ 5. At the same time, on the grounds of the scores obtained as a result of testing, recommendations are designed for the improvement and development of the leadership potential of the individual.

However, in our opinion, the information potential of this model is much more powerful, as the information obtained in the process of testing as a list of V, E, R, and C scores can and should be used more efficiently and effectively through deepening their common interpretation.

Research objective. The purpose of the article is to explore the information potential of the Leadership Diamond model, to substantiate the conditions of its detection and use for formulating recommendations on enhancing the leadership potential both of practicing leaders and in the educational process of future leaders for public administration.

Theoretical framework. The scientific work by Dzvinchuk et al. (2018b) presents the results of using the famous leadership model by P. Koestenbaum (2000) for improving the training process of undergraduate, graduate and postgraduate students of the Department of Public Administration and

Management of Ivano-Frankivsk National Technical University of Oil and Gas (IFNTUOG) through setting individual trajectories of professional development of attendees as well as monitoring and evaluating the dynamics of changes that occur during the educational process.

Analyzing and evaluating the testing results of the experiment participants, which were obtained during 2016/2017 and 2017/2018 academic years, we concluded that V, E, R, and C scores are undeniably valuable as sources of information about the need for changes in curricula, lecture texts, practical assignments, and topics of graduation papers, etc. However, in the process of continuous elaboration of cumulative results of the last two academic years (2018/2019, 2019/2020) and consultations with the practicing heads of local governments of the Carpathian region, we came to the conclusion that it is expedient to supplement traditional assessment of leadership interpretation of V, E, R, and C scores under the Leadership Diamond model (Fig. 1) with additional (secondary) scores to obtain more rounded information about the knowledge and training process of students of different categories and modes of study, their professional and practical needs, which can help improve the educational process and, if necessary, the personnel selection process for the system of public administration and management.

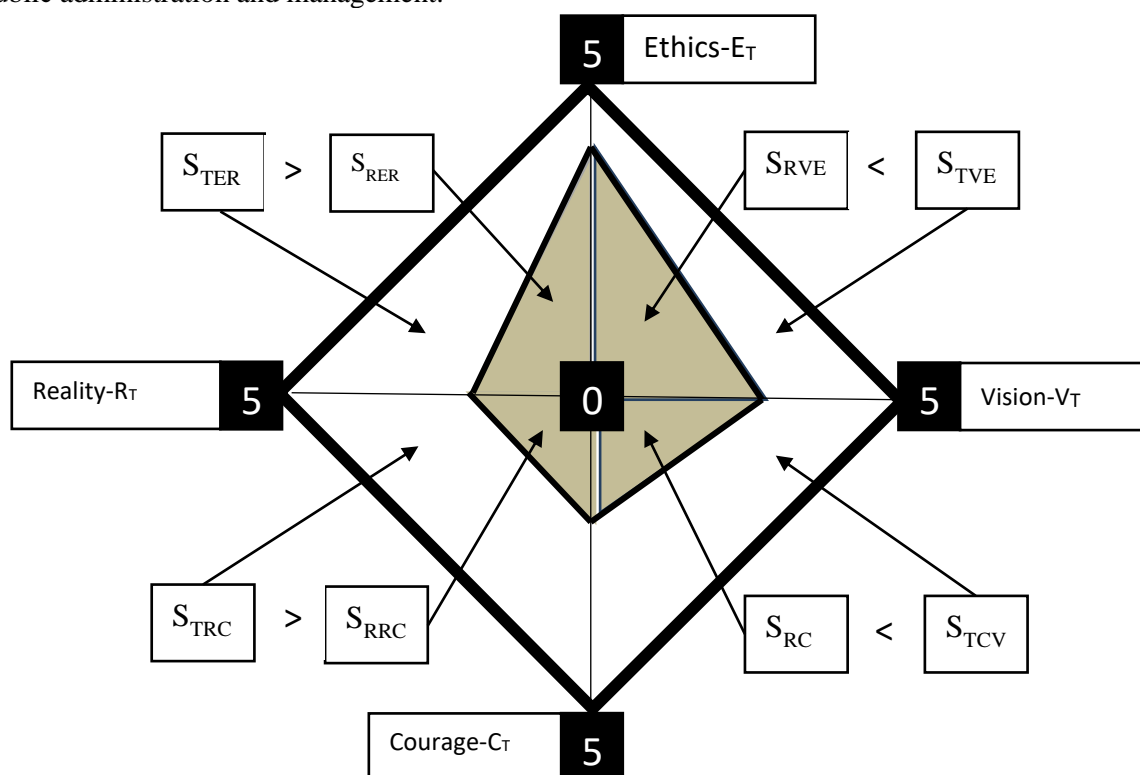


Fig. 1. A new interpretation of the information potential of P. Koestenbaum's Leadership Diamond model

The possibility of obtaining such additional or secondary scores and the feasibility of their definition and usage is grounded on the following considerations:

1. The total area of the Leadership Diamond model is determined by the theoretically maximum possible values of indicators $V_T = 5$, $E_T = 5$, $R_T = 5$, $C_T = 5$, in connection with which the theoretical maximum possible estimate of the area S_{TLD} is calculated with the formula:

$$S_{TLD} = (V_T * E_T / 2) + (E_T * R_T / 2) + (R_T * C_T / 2) + (C_T * V_T / 2) = S_{TVE} + S_{TER} + S_{TRC} + S_{TCV} = 50 \tag{1}$$

where S_{TVE} , S_{TER} , S_{TRC} , and S_{TCV} , respectively, are the area of sectors constructed in quadrants in the coordinates V – E (vision – ethics), E – R (ethics – reality), R – C (reality – courage) and C – V (courage – vision). In this case, $S_{TLD} = 50$ is the maximum possible score, described by its author as “Greatness leadership” with “the potential for extraordinary results” (Koestenbaum, 2000).

2. Therefore, having obtained real values of indicators V_R , R_R , C_R , E_R for a certain individual as the results of testing, it is necessary to use the same formula for calculating a real estimation of the area of S_{RLD} by the formula:

$$S_{RLD} = S_{RVE} + S_{RER} + S_{RRC} + S_{RCV}, \tag{2}$$

where

$$\begin{aligned} S_{RVE} &= (V_R * E_R) / 2 \\ S_{RER} &= (E_R * R_R) / 2 \\ S_{RRC} &= (R_R * C_R) / 2 \\ S_{RCV} &= (C_R * V_R) / 2 \end{aligned} \quad (3)$$

3. Thus, in addition to the traditional for Koestenbaum's test assessments of the level of leadership with V, E, R, and C components, it is possible to obtain the following five calculated estimates of S_{RLD} and S_{RVE} , S_{RER} , S_{RRC} , S_{RCV} , the information content of which can be used as additional information about the characteristics of leadership potential of an individual.

4. At the same time, the S_{RLD} area is none other than the assessment of the real profile of satisfied criteria of the leadership model completed by the person who responded to the statements of P. Koestenbaum's test. Since the theoretically maximum possible score to achieve is $S_{TLD} = 50$, the S_{RLD} can be estimated in the range from 0 to 100% of S_{TVE} , which is S_{RLD} .

5. If the S_{RLD} area gives an overall assessment of the level of satisfaction of the model in percents from S_{TLD} , then the calculation of the test results of V, E, R, and C in the areas of the components of S_{RVE} , S_{RER} , S_{RRC} , and S_{RCV} will also carry useful information about the paired characteristics of a person in the coordinates "vision – ethics" (V – E), "ethics – reality" (E – R), "realism – courage" (R – C) and "courage – vision" (C – V).

6. Interpretation of the additional personality characteristics in the first approximation can be determined as a joint influence of two characteristics on their behavior that are simultaneously inherent in the person at each of the two components. If we use the well-known lists of indispensable virtues of man, formulated in the time of Plato, the biblical precepts about the "leaders of the people" and Thomas Aquinas, we can come to the following conclusions:

S_{RVE} , the area formed by a pair of coordinates V – E, serves as an assessment of a person who exhibits novelty, creativity, inspiration, innovation, high morality etc., who is helpful, cares for people and shows sensitivity to their problems. In our opinion, such a geometric sum of bearer's ethics and reason in the list of moral virtues of man corresponds most to the definition of "justice" (Latin *stitia*), and in the model of biblical requirements for leaders it relates with reliability;

S_{RER} , the area formed by a pair of coordinates E – R, shows an assessment of a person who is helpful, cares about people and understands their needs and thoughts, who is moral and sensitive, task-oriented, sober and unemotional. This combination of qualities is closest to the definition of moral virtue as "moderation" or "restraint" (Latin *temperantia*), and in the list of biblical requirements, it is defined as selflessness;

S_{RRC} , the area formed by a pair of R – C coordinates, presents a person with a combination of such characteristics as a good understanding of other people; sobriety; focused on tasks-performance and result-achievement; unemotional; capable of using power wisely; proactive, courageous and responsible. In terms of its compliance with the mentioned list it is closest to such virtues as "fortitude", "strength of mind" or "courage" (Latin *fortitudo*), and in the list of biblical requirements it corresponds to piety as the observance of all God-given laws;

S_{RCV} , the area formed by the pair of coordinates C – V, evaluates the combination of an individual's ability to use power wisely, their initiative, courage, and responsibility while striving for novelty, creativity, inspiration, generating ideas and innovations. This combination best corresponds to the definition of such moral virtues as "prudence" or "wisdom" (Latin *sapientia*) and is defined as ability in the list of biblical requirements.

Thus, both the results of the traditional assessment of the V, E, R and C values, obtained as a result of testing by P. Kostenbaum's Leadership Diamond model and formulated recommendations on the possibility and objectives of their improvement can be used to determine the following derivative additional assessments of a person:

- S_{RLD} – the level of their approximation to the norm of Great Leader;
- S_{RVE} – the level of their fairness and reliability;
- S_{RER} – the level of their moderation and selflessness;
- S_{RRC} – the level of their courage and piety;
- S_{RCV} – the level of their wisdom and ability.

Our hypothesis is that the assessment of strengths and weaknesses of a leader, or any person who aspires for this status, under this expanded list of indicators, is a necessary component both in the educational process of future administrators for determining priorities in curricula and in the processes of making more informed decisions on the personnel selection for vacant executive positions. To test this

hypothesis, we turn to real cases of obtaining scores by 100 students (20 undergraduate students and 80 master students) of the Department of Public Administration and Management who passed an online test on leadership self-assessment on the site of Dr. Koestenbaum at <http://www.pib.net./model.htm>.

Findings and discussions.

A master student N as a result of the actual online testing on the site of Dr. Koestenbaum scored V = 3.9; E = 3.3; R = 4.3 and C = 4.2. On the grounds of these scores, the following recommendation was made for him: “the greatest opportunity for leadership growth is hidden in the least developed orientation” (which is E, authors’ remark), and therefore “...to strengthen your ethics, value, and teamwork, you should strive for important work and mature devotion, prioritize the improvement of communicative skills, act honestly and follow personal principles.”

However, doing calculations of derivative additional scores of V, E, R and C by formulas (2), we obtain

$$\begin{aligned}
 S_{RVE} &= (3.9 * 3.3) / 2 = 6.435 \\
 S_{RER} &= (3.3 * 4.3) / 2 = 7.095 \\
 S_{RRC} &= (4.3 * 4.2) / 2 = 9.03 \\
 S_{RCV} &= (4.2 * 3.9) / 2 = 8.19 \\
 S_{RLD} &= 30.75 = 61.5\% S_{TLD}
 \end{aligned}
 \tag{4}$$

Thus, the master student N scored 61.5% of the maximum possible of the Great Leader, having, at the same time, the highest indicators of personal realism (4.3) and courage (9.03), and the lowest indicators of ethics (3.3) and justice (6,435). It is obvious that such personality characteristics of a future or current leader provide much more information for decision-making about the development and improvement of personal ethical principles and justice in dealing with other people and strengthening their leadership potential through these components.

To confirm this possibility, we turn to the interpretation (under our proposed rules) of the scores obtained as a result of testing by extramural master students at the Department of Public Administration and Management of Ivano-Frankivsk National Technical University of Oil and Gas (IFNTUOG) during the 2019/2020 academic year (Table 1).

Table 1. The results of testing under the “Leadership Diamond” model of the extramural master students during 2019/2020 academic year and processing of results

N	V	E	R	C	$S_{RVE} = (V_R * E_R) / 2$	$S_{RER} = (E_R * R_R) / 2$	$S_{RRC} = (R_R * C_R) / 2$	$S_{RCV} = (C_R * V_R) / 2$	$\%S_{TLD} = \sum S_R * 2$
1	2	3	4	5	6	7	8	9	10
1	3.9	3.3	4.3	4.2	6,435	7,095	9,03	8,19	61,50
2	4.4	4.6	3.8	3.7	10,12	8,74	7,03	8,14	68,06
3	4.5	4.0	3.8	3.7	9,00	7,60	7,03	8,325	63,91
4	3.8	4.1	4.4	4.2	7,79	9,02	9,24	7,98	68,06
5	2.7	3.8	3.7	2.9	5,13	7,03	5,365	3,915	42,88
6	3.6	3.6	3.6	3.4	6,48	6,48	6,12	6,12	50,40
7	3.9	4.2	3.9	4.0	8,19	8,19	7,80	7,80	63,96
8	4.5	4.1	4.3	4.6	9,225	8,815	9,89	10,35	76,56
9	4.2	4.7	4.2	4.2	9,87	9,87	8,82	8,82	74,76
10	4.8	3.9	4.0	4.7	9,36	7,80	9,40	11,28	75,68
11	3.6	3.1	3.9	4.1	5,58	6,045	7,995	7,38	54,00
12	2.8	3.1	3.1	3.0	4,34	4,805	4,65	4,20	35,99
13	4.1	3.1	3.6	3.6	6,355	5,58	6,48	7,38	51,59
14	3.4	4.4	3.3	3.6	7,48	7,26	5,94	6,12	53,60
15	4.1	3.9	3.1	3.3	7,995	6,045	5,115	6,765	51,84
16	4.6	4.6	4.4	4.4	10,58	10,12	9,68	10,12	81,00
17	3.9	4.4	3.6	3.6	8,58	7,92	6,48	7,02	60,00
18	4.8	4.7	4.0	3.2	11,28	9,40	6,40	7,68	69,52
19	3.4	3.4	4.0	3.4	5,78	6,80	6,80	5,78	50,32
20	4.2	4.2	4.4	4.0	8,82	9,24	8,80	8,40	70,52
21	5.0	4.8	4.1	4.7	12,0	9,84	9,64	11,75	86,46
22	4.5	4.7	4.7	4.6	10,57	11,05	10,81	10,35	85,56
23	2.7	3.6	3.0	2.0	4,86	5,40	3,00	2,70	31,92
24	4.1	4.0	4.4	3.8	8,20	8,80	8,36	7,79	66,30
25	4.5	3.8	4.5	4.2	8,55	8,55	9,45	9,45	72,00

Continuation of table 1.

1	2	3	4	5	6	7	8	9	10
26	3.5	3.7	4.2	3.8	6.475	7.77	7.98	6.65	57.75
27	3.8	3.6	3.8	3.2	6.84	6.84	6.08	6.08	51.68
28	3.9	3.9	4.2	3.9	7.605	8.19	8.19	7.605	63.18
29	4.5	5.0	4.7	4.3	11.25	11.75	10.105	9.675	85.56
30	3.4	3.6	3.4	3.8	6.12	6.12	6.46	6.46	50.32
31	4.2	4.3	4.3	3.5	9.03	9.245	9.675	7.35	70.60
32	4.8	4.9	4.8	3.9	10.776	10.776	9.36	9.36	80.54
33	3.7	3.8	3.9	3.5	7.03	7.41	6.825	6.475	55.48
34	4.6	4.0	3.8	3.1	9.20	7.60	5.89	7.13	59.64
35	3.9	4.7	4.2	4.1	9.165	9.87	8.61	7.995	71.28
36	4.7	4.6	4.6	4.3	10.81	10.58	9.89	10.105	82.77
37	3.0	3.1	3.5	3.6	4.65	5.425	6.30	5.40	43.55
38	4.9	4.2	4.4	4.4	10.29	9.24	9.68	10.78	79.98
39	4.8	4.3	4.7	4.6	10.32	10.105	10.81	11.04	84.55
40	5.0	4.1	4.2	4.4	10.25	8.61	9.24	11.00	78.20
41	3.8	4.2	4.1	4.2	7.98	8.61	8.61	7.98	66.36
42	3.5	3.6	3.6	3.2	6.30	6.48	5.76	5.60	48.28
43	3.8	4.1	4.0	3.7	7.79	8.20	7.40	7.03	60.84
44	4.4	4.4	4.3	3.7	9.68	9.46	7.965	8.14	70.49
45	4.9	5.0	5.0	5.0	12.25	12.50	12.50	12.25	98.00
46	4.0	4.5	4.3	4.1	9.00	9.675	8.815	8.20	71.38
47	4.4	4.5	4.2	4.2	9.90	9.45	8.82	9.24	74.82
48	4.3	4.3	4.4	3.7	9.245	9.46	8.14	7.955	69.60
49	3.9	3.7	3.8	3.1	7.215	7.03	5.89	6.045	52.36
50	4.5	3.8	4.0	3.4	8.55	7.60	6.80	7.65	61.20
51	3.3	4.0	3.6	3.4	6.60	7.20	6.12	5.61	51.06
52	4.0	4.2	4.7	4.4	8.40	9.87	10.34	8.80	74.94
53	3.7	3.4	3.9	3.8	6.29	6.63	7.41	7.03	54.72
54	3.7	3.2	3.9	3.9	5.92	6.24	7.605	7.215	53.96
55	5.0	4.7	4.1	4.0	11.75	9.635	8.20	10.00	79.20
56	4.1	4.5	4.0	3.5	9.225	9.00	7.00	7.175	64.80
57	4.7	4.6	4.8	4.0	10.81	11.04	9.60	9.40	81.70
58	3.9	4.0	3.6	3.6	7.80	7.20	6.48	7.02	57.00
59	5.0	4.7	4.7	4.5	11.75	11.045	10.575	11.25	89.24
60	4.5	4.4	4.2	4.2	9.90	9.24	8.82	9.45	74.82
61	4.4	4.2	4.0	4.2	9.24	8.40	8.40	9.24	70.56
62	4.7	4.3	4.4	4.2	10.105	9.46	9.24	9.87	77.35
63	3.6	4.3	3.5	3.5	7.74	7.525	6.125	6.30	55.38
64	3.8	4.1	4.1	3.8	7.79	8.405	7.79	7.22	62.41
65	3.9	3.1	4.0	3.4	6.045	6.20	6.80	6.63	51.35
66	4.3	4.5	4.5	4.4	9.675	10.125	9.90	9.46	78.32
67	4.7	4.2	4.4	4.1	9.87	9.24	9.02	9.635	75.53
68	3.8	4.3	3.7	4.5	8.17	7.955	8.325	8.55	66.00
69	4.3	4.5	4.0	4.3	9.675	9.00	8.60	9.245	73.04
70	4.4	4.7	4.8	4.6	10.34	11.28	11.04	10.12	85.56
71	4.5	4.5	4.2	4.2	10.125	9.45	8.82	9.45	75.69
72	4.2	4.5	4.4	4.3	9.45	9.90	9.46	9.03	75.68
73	3.4	3.8	4.2	4.3	6.46	7.98	9.03	7.31	61.56
74	4.0	3.7	4.0	3.2	7.40	7.40	6.40	6.40	55.20
SRLD									66.22%

The resulting array of primary and secondary assessments of leadership qualities of respondents should be analyzed for the possibility of obtaining and using basic and additional information for two target purposes:

- assessment of each individual according to the criteria of the model with the possibility to identify the feasibility and directions of their further improvement and development and/or job recruitment;

- generalization and assessment of the dominant orientations of the set of respondents (group) by the criteria of the model, as a certain social snapshot for assessing the general characteristics of the management of organized human communities.

The analysis of the master students' answers and the resulting array of primary (V, E, R, C) and calculated secondary (S_{RVE} , S_{RER} , S_{RRC} , S_{RCV} , S_{RLD}) scores demonstrate that using the set of the scores provides with an opportunity to propose more substantiated recommendations for training and developing attendees of the master's program as well as to make more balanced conclusions and decisions whether their personal characteristics comply with the requirements for filling certain job positions in the sphere of public administration and management.

For instance, if we return to formula (4), which found that the master student $N = 1$ received just $S_{RLD} = 61.5\%$ (below the average value of 66.22% in the group) of the desired score for Great Leadership, we realize that additional information about the minimum scores in the areas examining the level of the student's ethics and justice allows setting more accurate tasks for personal development both for enhancing the overall level of V, E, R and C, scores and particularly, those components where the student scored the less (ethics and justice).

It is quite possible to more precisely substantiate the expediency of the choice of or to formulate certain recommendations for the improvement and development of respondents with the same scores at the S_{RLD} level of Great Leadership. Thus, for example, respondents $N = 71$ and $N = 72$ with scores of 75.69% and 75.68%, respectively, should pay attention to the development of completely different components of their characteristics. $N = 71$ should develop realism, courage and bravery (minimum scores), while $N = 72$ should concentrate on the improvement of such characteristics as vision and wisdom.

A similar situation arises when assessing the level of S_{RLD} for participants $N = 22$ and $N = 29$ with a sufficiently high value of $S_{RLD} = 85.56\%$. However, $N = 22$ should pay attention to the development of his own vision (4.5) and courage (10.35), whereas $N = 29$ should prioritize the development of courage (4.3) and wisdom (9.675). Such personal clarifications can be important both in the learning process and for the assessment of self-development priorities, as well as in the selection of the best candidates.

Both maximum and minimum test results can be analyzed in more detail. For instance, the level of the maximum score in the entire sample of $S_{RLD} = 98.00\%$ ($N = 45$) shows, that despite minimal shortcomings, there still are some in vision (4.9), justice (12.25) and wisdom (12.25), while the formation of the level of the minimum score $S_{RLD} = 31.92\%$ ($N = 23$) occurred mainly because of the respondent's poor demonstration of the scores of courage (2.0) and bravery (2.7).

Therefore, the evaluation of information obtained by an individual using the Leadership Diamond model, and the decision on their ability to be a powerful and effective leader should be grounded on their scores of $S_{RLD} = \% S_{TLD}$ with additional clarification and consideration of the maximum values from the list of primary and secondary scores (as their strengths) and minimum scores from the same list (as their weaknesses).

In this context, it seems appropriate to compare the test results of existing employees of the system of public administration and local self-government (external degree program) and novice applicants (internal bachelor's and master's degree programs, Table 2).

Therefore, the comparison of the average group values of multiplied S_{RLD} scores of actively functioning attendees of extramural master's program (Table 1) with similar characteristics of first-year undergraduate students (Table 2) resulted in an expected conclusion that the functional leadership of educated people with some work experience is slightly higher ($S_{RLD} = 66.22\%$) than of those who are just pursuing the profession of a public official ($S_{RLD} = 61.37\%$).

The other important advantage of the proposed methodology of interpreting the results under the famous model is the ability to use the data obtained in the testing process for summarizing and comparative analysis of information arrays from estimates of different multiplied sets of respondents to determine and compare the coefficients of their focus on priority criteria.

The dominant benchmarks are determined in accordance with the proposed by Dzvinchuk and Petrenko (2017b) method of fixing the ratio of the maximum number of options chosen by respondents under a certain criterion (*max*) to the minimum number of options chosen by them under the same criterion (*min*). For example, $K_V = V/v$ is the coefficient of the orientation of the members of the evaluated set concerning their vision of prospects and innovations, and the ratio of $K_R = R/r$, $K_E = E/e$ and $K_C = C/c$ are respectively the coefficients of the orientation of group members regarding realistic pragmatic, ethical and moral, energetic and decisive behaviors in the process of leadership.

Table 2. The results of testing under the Leadership Diamond model of the 1st-year undergraduate students during 2018/ 2019 and 2019/2020 academic years and processing of the results

N	V	E	R	C	$S_{RVE} = (V_R * E_R) / 2$	$S_{RER} = (E_R * R_R) / 2$	$S_{RRC} = (R_R * C_R) / 2$	$S_{RCV} = (C_R * V_R) / 2$	$\% S_{TLD} = \sum S_R * 2$
2018/2019 (1 st year undergraduate students)									
1	3.2	2.5	2.5	2.8	4.00	3.125	3,50	4.48	30,21
2	3.9	3.8	4.0	3.8	7.41	7.60	7.60	7.41	60,04
3	4.4	4.5	4.6	4.4	9.90	10.35	10.12	9.68	80.10
4	4.3	4.2	4.4	4.4	9.03	9.24	9,68	9.46	74,82
5	4.6	4.5	4.5	4.5	10.35	10.125	10.125	10.35	81,90
2019/2020 (1 st year undergraduate students)									
6	3.7	4.1	4.1	3.4	7.585	8.405	6.97	6.29	58.50
7	4.4	4.2	4.1	3.8	9.24	8.61	7.79	8.36	68.00
8	3.6	3.9	3.6	4.1	7.02	7.02	7.38	7.38	57.60
9	2.6	3.7	4.1	3.5	4.81	7.585	7.175	4.55	48.24
10	4.5	4.9	4.8	4.7	11.025	11.76	11.28	10.575	89.28
11	4.1	4.0	4.0	4.0	8.20	8.00	8.00	8.20	64.80
12	3.6	4.0	4.5	3.9	7.20	9.00	8.775	7.02	63.99
13	4.0	4.1	3.9	3.9	8.20	7.995	7.605	7.80	63.20
14	4.7	4.9	4.4	4.2	11.515	10.78	9.24	9.87	82.81
15	3.3	2.5	3.0	3.1	4.125	3.75	4.65	5.115	35.28
16	4.1	4.1	3.7	3.4	8.405	7.585	6.29	6.97	58.50
17	3.9	3.8	4.3	4.1	7.41	8.17	8.815	7.995	64.78
18	3.7	4.1	4.1	3.4	7.585	8.405	6.97	6.29	58.50
19	3.1	4.0	4.2	3.1	6.20	8.40	6.51	4.65	51.52
20	3.7	3.0	3.3	3.2	5.55	4.95	5.28	5.92	43.40
2019/2020 (master students)									
21	3.5	4,5	3.8	3.7	7.875	8.55	7.03	6.475	59,80
22	4.1	3.7	3.5	4.1	7.585	6.475	7.175	8.405	59,28
23	4.0	3.6	3.7	3.7	7.20	6.66	6.845	7.40	55,84
24	4.2	3.8	3.5	4.3	7.98	6.65	7.525	9.03	62,37
25	4.1	4.1	3.6	4.1	8.405	7.38	7.38	8.405	63,14
26	3.5	4.5	3.8	3.7	7,875	8.55	7.03	6.475	59,86
S_{RLD}									61.37%

Similar calculations can be performed for secondary assessments, where $K_{RVE} = RVE/rve$, $K_{RER} = RER/ter$, $K_{RRC} = RRC/trc$, $K_{RCV} = RCV/tcv$.

The results of the calculations of these coefficients performed under the data of the initial assessments from Table 1 are as follows:

$$\begin{aligned}
 K_V &= V/v = 26/22 = 1.18 \\
 K_E &= E/e = 31/13 = 2.38 \\
 K_R &= R/r = 26/15 = 1.73 \\
 K_C &= C/c = 8/36 = 0.22
 \end{aligned}
 \tag{5}$$

The calculation of similar coefficients under additional assessments (Table 1) gives the following result:

$$\begin{aligned}
 K_{RVE} &= RVE/rve = 30/16 = 1.875 \\
 K_{RER} &= RER/ter = 29/10 = 2.90 \\
 K_{RRC} &= RRC/trc = 18/30 = 0.60 \\
 K_{RCV} &= RCV/tcv = 9/29 = 0.31
 \end{aligned}
 \tag{6}$$

which shows that the coefficients of the orientation of respondents by pairwise scores, determined on the ground of primary ones, also provide additional information that helps clarify the main characteristics, as they clarify the characteristics of respondents in areas where they scored maximum and minimum values.

It is worth noting that the proposed interpretation of information about testing results under the Leadership Diamond Model makes it possible to trace the dynamics of changes in the general characteristics of leadership capacity of current public servants. We assume that these changes have

become possible thanks to improving educational programs on the grounds of the testing results, and implementation in these programs a range of conclusions and recommendations of theoretical research on leadership done by the scientists, postgraduate and master students of the department, which have been practically tested in the educational process, as well as a constant concentration of learners' attention on the development of characteristics significant for a functional leader.

The results of such research by members of the department as “Knowledge economy and the necessary changes in leadership models” (Dzvinchuk et al., 2016a), “On the need to develop and spread the foundations of moral leadership in the practice of domestic public administration” (Dzvinchuk, et al., 2019a), “On the manifestations of the Dunning-Krueger effect in the system of governance of the Ukrainian state” (Dzvinchuk & Petrenko, 2017a), “Planning professional and personal development of senior executives in public administration” (Orliv, 2016), “The development of federal agencies’ senior executives in the USA: experience for Ukraine” (Orliv, 2017), and others, a number of speeches at conferences of various levels with educational and methodological recommendations regarding the differentiation and training of people to assess their ability and desire to take leading positions (Dzvinchuk et al., 2016b; Liutyi et al., 2018; Petrenko et al., 2018; Dzvinchuk et al., 2018a; Dzvinchuk & Liutyi, 2019b; Petrenko & Orliv, 2019), as well as educational manuals for practicing managers (Dzvinchuk & Kushniriuk, 2012; Petrenko et al., 2016; Verbovska et al., 2018) became the basis for teaching the discipline “Leadership and leadership in the public service”, and are used as mandatory for consideration and examples analysis in such lectures as “Economics of Management”, “Ensuring the Economic Systems Development”, “Management of Change and Innovation in Public Administration”, “Strategic Management”, “Professional Development and Staff Assessment”, “Career of a Public Servant”, etc.

The positive results of these measures can be indirectly confirmed by the data in Table 3, which shows the values of the coefficients K_V , K_R , K_E , and K_C , obtained and published in 2017 (Dzvinchuk & Petrenko, 2017b; Dzvinchuk et al., 2018b), and data obtained by testing in 2019, which, in our opinion, indicate some positive changes in the respondents’ orientation to the criteria of the Leadership Diamond model.

Table 3. Differentiation of respondents’ orientation under the primary criteria of P. Koestenbaum’s Leadership Diamond model

Category	Year	Number of respondents	Ratio of max choices to min choices			
			$K_V = V/v$	$K_E = E/e$	$K_R = R/r$	$K_C = C/c$
PA master students	2018	180	51/46=1,10	33/30=1,10	85/17=5,00	15/87=0,20
	2019	74	26/22=1,18↑	31/13=2.38↑	26/15=1.73↓	8/36=0,22≈
PA undergraduates	2019	26	10/7=1,43↑	7/7=1,00↓	9/6=1,50↓	4/9=0,44↑

A certain increase in the coefficients of orientation to the criteria of the Leadership Diamond model is observed in the maximum number of highest scores in the positions of “vision” and “ethics”. At the same time the criterion “realism” experienced a decrease while the criterion “courage” was almost unchanged.

Attention is drawn to the fact that the most conscious and developed criteria, which are the focus of students in all tested groups, are the criteria of “ethics” and “justice”, and the least developed ones are “courage” and “bravery”.

The growth of the first two components positively characterizes practicing and future employees of the system and their improvement can be viewed as a result of the teachers’ influence, learning process as well as recommendations on changing behavioral patterns, and a certain drop in the frequency of choosing the maximum values of “realism” may indicate that practicing civil servants doubt if they can assess correctly the situation in the society in the context of the growing uncertainty of transformational changes, which is explained and completely correlates with their stable choosing of minimum values of the criterion “courage” as a source of resistance to challenges and pressure of external factors in times of reforms, policies changes, etc.

The surfacing of this situation among already practicing civil servants is alarming, as it signals about the loss of their leadership creativity in vision and courage to act openly as well as about giving preference to the behavior of subordination and execution. Eventually, inexperienced young people who are just studying, are ahead of the experienced, “taught by the realities of life” attendees of a master program (see Table 3) by these indicators, which, in turn, requires consideration and certain

changes in curricula and teachers' work, as well as the continuation of research to identify and assess the impact of these changes on the characteristics of students. Using design thinking methodology for their leadership development can deliver the following benefits: formation of a human-orientation; creativity and teamwork in problem solving; experimental and holistic approaches in the formation of readiness for leadership behavior; orientation to the development and implementation of targeted solutions that are "good enough for now" as a starting points for continuing innovation instead of dubious attempts to solve a global problem.

Conclusions. Thus, from the above examples it becomes obvious that the proposed method of interpreting the scores under the famous model significantly expands its informativeness, as instead of four traditional (primary) assessments, we get one more general $S_{RLD}\%$ assessment of the maximum possible value of Great Leadership and four additional (secondary) assessments with an extended interpretation of personality traits and characteristics, which allow making more informed decisions both on the organization of training and development, and on the recruiting process in public authorities.

Consequently, the use of this method provides with an opportunity and information for analytical research and comparison of individual and group scores, identification of personal and group minimum (weaknesses) and their maximum (strengths), allows making decisions on substantiated selection, the formation of individual and group development trajectories, improvement and correction of leadership skills of public servants. Therefore, the perspective of further research is the use of this method to develop the level of wisdom and ability of public servants through design thinking methodology in the frame of realization of the joint Ukrainian-Lithuanian R&D project in 2020-2021.

The proposed approach can also be recommended for the use with other leadership diamond models and similar ones when a comprehensive interpretation of initial scores provides an opportunity to explore and assess a person's leadership potential more thoroughly and make appropriate decisions about their training, development and career.

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