Adaptors and Innovators: Success in Business School

Dr. Dorothy Marcic, Management, Metropolitan State University - St. Paul
Dr. Susan Willey, Management, University of Wisconsin - La Crosse
Dr. Lori Johnson, Management, University of Wisconsin - La Crosse

Abstract

The Kirton Adaption-Innovation Inventory measures problem solving style in terms of originality, efficiency, and conformity to group standards. The KAI Inventory was given to 203 undergraduates to determine if academic major and grade point average are correlated with KAI scores. Efficiency and GPA were strongly correlated, particularly among accounting students. However, adaptive business students did not have higher grades than innovative business students nor did innovative liberal arts students have higher grades than their adaptive counterparts.

Introduction

Kirton's theory of Adaption-Innovation postulates two distinctive types of cognitive style (Adaption-Innovation) which exhibit creative, problem-solving and decision-making behavior. This theory proposes that individuals can be located on a continuum with adaptors and innovators at the extreme ends.

The purpose of this study is to measure levels of adaption-innovation in business students -- who are presumably future leaders of organizations -- and compare them with scores of liberal arts students.

Adaption-Innovation measures style of problem-solving. Adaptors typically create many ideas which seek to make the same situation more effective. Innovators, on the other hand, continually produce ideas which challenge the current system or method of approach. Adaptors are concerned with "doing things better," while innovators want to "do things differently." (Kirton, 1987) See list of common characteristics on next page.

Kirton's theory was originally developed as a

result of a study of management initiative done in the 1950's (Kirton, 1961) which was conducted to analyze the way that ideas leading to radical changes were developed and implemented. Various examples of successful ideas were studied to ascertain the process leading to this success. The findings of this study can be readily explained by the Adaption-Innovation Theory.

EARLIER RESEARCH

Adaptors have often been described as "doing things better" while innovators "do things differently" (Kirton, 1976 and 1977). Adaptors are described as disciplined, conservative, efficient and methodical. They tend to work in cognitive areas that are clearly defined by existing paradigms (Kuhn, 1970). Adaptors approach problem-solving by working to find a better way to do things without changing the underlying beliefs or ideas of their organization.

In contrast, innovators are viewed as impulsive and quick to change the status quo in their search for a different solution. When confronted

Common characteristics of the two types include: (Kirton, 1980, p. 53).

The Adaptor

Characterized by precision, thinking reliability, efficiency, tasks methodicalness, prudence, discipline, conformity.

Seeks solutions to problems in tried and understood ways.

Seen as sound, conforming, safe, dependable.

Challenges rules rarely, cautiously, when assured of strong support.

Is essential to the in functioning of the institution all the time, but occasionally needs to be 'dug out' of system.

The Innovator

Seen as undisciplined, tangentially, approaching from unsuspected angles.

Queries problems' concomitant assumptions: manipulates problems.

Seen as unsound, impractical; often shocks opposite.

Often challenges rules, has little respect for past custom.

In the institution is ideal unscheduled crises, or better still to help to avoid them, if can be controlled.

with a problem, innovators tend to work outside the existing paradigms to create new methods of handling things. Because innovators challenge conventional approaches to problem-solving, it has been argued (Kirton, 1976 and 1977) that adaptors are favored in organizations. Adaptors seldom change existing beliefs or policies; thus, they minimize the risk associated with the radical solutions offered by their counterparts, the innovators. Weber (1948) and others (Merton, 1957 and Parsons, 1951) wrote that the aims of a bureaucratic structure are precision, reliability and efficiency, a view that rewards the behavior of the adaptive individual. Both adaptors and innovators may devise very good solutions to problems that are brilliantly thought out and equally applicable (Kirton, 1987). However, because adaptors' ideas are generally derived from accepted truths, their ideas are more readily accepted by other adaptors and even innovators than are the innovators' solutions which challenge commonly held beliefs. (Kirton, 1987).

As a result of these divergent philosophies and approaches between individuals at the extreme ends of the (KAI) Kirton Adaption-

Innovation Inventory continuum, problems in communication and cooperation at the organizational level may arise. The adaptor may look at the innovator as creating havoc within the existing structure of the organization. Conversely, innovators dislike the rules, regulations and efficiency of the bureaucracy. They view adaptors as conservative, stodgy individuals who show little appreciation for the new and exciting ideas innovators submit. Kirton suggests that individuals with scores close to the population mean e.g., at the midpoint of the continuum between adaptors and innovators may act as "bridges" between antagonistic groups and individuals of innovators and adaptors. (Kirton, 1987). If so, it may be useful to explore this relationship in organizations in order to promote group cooperation and effectiveness.

Kirton theorizes that adaptors and innovators should be found in equal numbers in the general population and that both are important for the organization. However, they may not be found in equal numbers within an organization or one of its departments. For example, Kirton (1980) found adaptors were more comfortable in depart-

ments which have less interaction with other units (i.e., production) while innovators were more common in departments acting as inter-facers (i.e., Sales, progress chasing.) Similarly, Keller and Holland's (1978) work showed Research and Development managers to have higher innovation scores than the mean of all managers in their study. Gryskiewicz (1985) examined bank personnel and found a difference in scores of bank employees with higher-level managers showing more innovation. A similar study (Holland, 1987) found branch managers to be more adaptive and therefore possibly less able to cope with rapid changes in the financial service industry.

Generally, managers who work in stable environments tend to adaptiveness and those who work in a turbulent environment tend to innovativeness (Kirton, 1980) and (Thomson, 1980). Kirton (1980) has found that departments concerned with internal processes have managers whose scores on the KAI are closer to the adaptive end, while those departments concerned with external units and entities have managers whose scores are typical of innovators. A study done by Thomson (1980) confirms Kirton's results. While middle managers in Singapore and Malaysia showed scores on the KAI continuum consistent with the general population mean found in other industrial countries, scores of the Singapore managers varied significantly depending upon their organizations, with managers in Western-owned companies scoring higher in innovativeness than those employed either with local companies in civil service.

Occupational groups and KAI scores have also been correlated by Kirton (1982), where occupations with rigid, structured environments such as engineers have scores below the population mean (adaptors) and occupations in more flexible, free atmospheres such as research and development fields, score above the mean (innovators).

HYPOTHESES

Because adaptors generally do well in organizations, and business schools prepare students for

these very organizations, the authors developed the following hypotheses:

- 1 Adaptive business students will have a higher GPA than innovative business students, given that their courses tend to be business oriented emphasizing logical and sequential methods to solve business problems.
- 2 Within business programs, accounting students will be more adaptive and therefore have a higher GPA than other majors.
- 3 Innovative liberal arts students will have a higher GPA than adaptive liberal arts students, given that more of their courses are conceptual.

METHODOLOGY

In order to test these hypotheses, 203 undergraduate students from the University of Wisconsin - La Crosse were given the Kirton Adaption--Innovation Inventory (KAI), along with a series of demographic items identifying gender, major, grade-point average and grade expected in the course. Participants score the 33 items on the Kirton Adaption-Innovation Inventory from 1 to 5. The participants' responses yield a score for originality, efficiency and conformity to rules and group standards. Innovators will score higher in creativity originality; adaptors' strength lies in their efficiency and conformity to group expectations. Of the 65 possible points on the KAI, Kirton has established the population mean as 96.0. Adaptors score less than 96.0 while innovators score more than the population mean. Of the 203 students in the sample 111 were male and 92 were female. Each student's KAI score was tabulated and analyzed by cross-tabulating with the various demographic variables. Regression analyses were utilized as all.

Table I shows the categories established by the authors to cross tabulate the data.

Table II summarizes mean KAI scores by a student's major. In addition, it indicates the percentage of students, by major, falling within the adaptive range of the KAI continuum.

RESULTS

Cross tabulation of the total score on the KAI and the cumulative GPA did not show a significant relationship as can be seen in Table III. A cross tabulation of the total score and GPA by major showed even less of a relationship. Results of the scattergram for total GPA and total KAI score did show some relationship with a significance of .05301 and a negative correlation of -.13878 as is seen in Table IV.

A strong correlation was found between efficiency and total GPA as well as efficiency and major GPA as can be seen in Table III. The KAI score, GPA and major were also cross-tabulated. The authors found positive relationships with efficiency, total GPA and students with a management major: students with a high level of efficiency receive better grades. This is logically acceptable, since students who are better at planning and time management generally do better in university courses. Pearson correlation coefficients also support the strong relationship between efficiency and KAI score that is reflected in Table V.

Table VI summarizes the cross-tabulations between major and expected grade. This data, with the findings in Table I, support the second hypothesis: accounting students score as the most adaptive of any major with the lowest mean score of 87.38 and also the highest percentage of adaptive students relative to the sample size of each major. Cross tabulations of a student's major and the expected grade in the class surveyed indicate a correlation with a significance of .0158 showing that accounting students also expect a higher grade. Since the data was not collected in accounting courses, accounting students were predicting success in a non-major field.

The authors did not find a correlation between non-business students' KAI scores and total GPA and major GPA, contrary to our third hypothesis. In other words, we did not find that innovative liberal arts students received higher grades than adaptive liberal art students. However, our data

is limited to only 20 non-business students, and therefore, this is inconclusive.

CONCLUSION

The data did not demonstrate a significant relationship in the first and last hypotheses suggested. The strongest correlation found in the analysis of the data was between a sub-scale of the total KAI score, efficiency and GPA. A factor analysis of these characteristics (Kirton, 1976) categorizes the individual as thorough, methodical, consistent and a master of detail. Because these characteristics are associated with the "bureaucratic personality," this data suggests that individuals in organizations be examined for these qualities.

The strong relationship found between accounting majors and adaptiveness suggest that these students studied. In addition, they are the most optimistic about their grades. This lends support to our first hypothesis. We recommend further study examining liberal arts students' success compared to their KAI scores. The level of self-confidence in accounting students could be compared to other business students and be studied further to determine if this level of confidence can be correlated with career advancement in the accounting profession. Likewise, the other business majors could be tracked to determine the types of employment adaptors and innovators obtain upon graduation and whether their basic approaches to problem-solving (adaption or innovation) affect career progress.

TABLE I

GPA	TOTAL (KAI)	ORIGINALITY (O)	EFFICIENCY (E)	RULE/GROUP CONFORMITY (RGC)
0.00-2.50	0- 70	22-35	07-15	17-30
2.51-2.99	71- 85	36-48	16-24	31-45
3.00-3.50	86- 99	49-61	25-32	46-60
3.51-4.00	100-114			
	115-128			
	129-160			

TABLE II

Mean KAI Scores for Samples Divided by Major

MAJOR	N	PERCENTAGE ADAPTIVE	M
NON BUSINESS	20	60.00	91.40
ACCOUNTING	37	67.57	87.38
MANAGEMENT	84	55.95	95.50
FINANCE	26	65.38	90.46
MARKETING	36	61.11	92.64

N = Sample number of students
M = Mean score on KAI

TABLE III

Chi-Square of KAI Scores and GPA

GPA	KAI	Efficiency
	15.65	32.00
	p = .41	p = .000
Major GPA	9.48	11.06
	p = .85	p = .080

TABLE IV

Regression of Total GPA and Total KAI Score

TOTAL GPA	KAI
R = -.13878	
P = .05301	

TABLE V

Pearson Correlation Coefficients

	TOTAL GPA
KAI SCORE - ORIGINALITY	p = .983
KAI SCORE - EFFICIENCY	p = .000
KAI SCORE - RULE/GROUP CONFORMITY	p = .207
TOTAL KAI SCORE	p = .053

TABLE VI

Cross tabulations of Major and Grade Expected in Class

MAJOR	GRADE EXPECTED (in percentages)		
	A	B	C
NON-BUSINESS	30.0	60.0	10.0
ACCOUNTING	70.3	27.0	2.7
MANAGEMENT	34.5	56.0	9.5
FINANCE	53.8	46.2	0
MARKETING	52.8	36.1	11.1

p = .0158

REFERENCES

- 1 Gyskiewicz, Stanley S., Hills, D. W., Holt, K. and Hills, K. 1985, *Understanding Managerial Creativity: The Kirton Adaption-Innovation Inventory and Other Assessment Measure*. Technical Report, Center for Creative Leadership, Greensboro, NC.
- 2 Holland, Peter A. 1987, Adaptors and Innovators: Application of the Kirton Adaptation-Innovation Inventory to Bank Employees, *Psychological Reports*, 60, 263-270.
- 3 Keller, R. T. and Holland, W. E., 1978, A Cross-Validation Study of the KAI Inventory in Three Research and Development Organizations. *Applied Psychological Measurement*, 2, 563-570.
- 4 Kirton, Michael J. 1961, *Management Initiative*. Action Society Trust, London.
- 5 Kirton, Michael J. 1976, Adaptors and Innovators: A Description and Measure. *Journal of Applied Psychology*, 61, 622-629.
- 6 Kirton, Michael J. 1977, *Manual of the Kirton Adaption - Innovation Inventory*. National Foundation for Education Research, London.
- 7 Kirton, Michael J. 1980a, Adaptors and Innovators in Organizations. *Human Relations*, 3, 213-224.
- 8 Kirton, Michael J. 1980b, Adaptors and Innovators: The Way People Approach Problems, *Planned Innovation*, March 1980, 51-54.
- 9 Kirton, Michael J. 1982, *Kirton Adaption - Innovation Inventory (KAI)*.
- 10 Kirton, Michael J. 1985, *Adaption - Innovation: A Theory of Cognitive Style*. Occupational Research Centre Hatfield Polytechnic.
- 11 Kirton, Michael J. 1987, Adaptors and Innovators: Cognitive Style and Personality in Isaksen S. G. *Frontiers of Creativity Research: Beyond the Basics*, Buffalo, New York: Bearly Limited.
- 12 Kirton, Michael J. 1987, Adaptors and Innovators: Problem-Solvers in Organizations, unpublished manuscript.
- 13 Kuhn, T. S. 1970, *The Structure of Scientific Revolutions*. (2nd Ed.) Chicago: University of Chicago Press.
- 14 Merton, R. K. (Ed.) 1957, *Bureaucratic Structure and Personality*. In *Social Theory and Social Structure*, Free Press of Glencoe, New York.
- 15 Parson, T. 1957, *Social Theory and Social Structure*. Free Press of Glencoe, New York.
- 16 Thomson, Delores 1980, Adaptors and Innovators: A Replication study on Managers in Singapore and Malaysia. *Psychological Reports*, p. 47, 383-387.
- 17 Weber, Max 1970, In H. H. Gerth and C. W. Mills (Eds. and Trans.) *From Max Weber: Essays in Sociology*, Routledge and Kegan Paul, London.