THE DYNAMICS OF CHARISMATIC LEADERSHIP IN ORGANIZATIONS

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ABSTRACT

An integrated theory of charismatic leadership was developed, and a System Dynamics model built of that theory. Applying the model to J.F. Kennedy, four data sets relating to the Peace Corps were successfuly reproduced by the model with the same set of initial values, attesting to the sensitivity of the general theory and model to the manifestations of JFK's charismatic leadership.

THE PROBLEM

The frequent need of organizations for radical, yet legitimate changes has led to renewed interest in charismatic or, as it is sometimes called, transformational leadership. There are two traditions of theory and research in this field. Social scientists have looked at the situational conditions for the emergence of charismatic leaders, and the contingencies in which personal charisma will or will not be "routinized" into a stable social order (e.g., Weber, 1922; Eisenstadt, 1968; Bendix, 1985; Willner, 1984; Glassman and Swatos, 1985). Psychologists have concentrated on the personal characteristics of charismatic leaders and the dynamics whereby followers are drawn to support the leader's vision (e.g., House, 1977; Burns, 1978; Tichy and Devannah, 1986; Conger and Kanungo, 1988).

Since neither of the two approaches covers the phenomenon in its entirety, we have integrated them into one comprehensive theory of charismatic leadership. Then, in order to permit the empirical testing of this theory, we have applied the strategy advocated by Jacobsen, Bronson, and Vekstein (1990), and constructed a System Dynamics model of the integrated theory. All the model variables and coefficients have been defined to match the concepts and behaviors postulated by the theory. This paper presents the results of our first attempts to reproduce empirical data with the model.

THEORY AND MODEL

The following summarizes the theory briefly. A social situation is conducive to charismatic leadership if one or more of the following conditions apply: (1) Important moral values are perceived to be involved; (2) the relationship between performance and goals is unclear and ambiguous; (3) the situation is unstable, and (4) requires exceptional efforts (Shamir, House, and Arthur, 1989). When, in such a situation, there is a person with the appropriate motivation (McClelland, 1985; Avolio and Bass, 1988; Sashkin,

1988:142), s/he will articulate a vision of change, causing people to recognize that person as leader and identify themselves with the vision.

The leader will then arouse followers by communicating his/her confidence in their ability, and the expectation that they will realize the vision through their own activities (Bass, 1985; Eden, 1990: 128). An elite of active followers will be enthused by the leader's role-model of commitment to commit themselves also, and autonomously reinforce themselves to exceptional performance. If the vision is consonant with the existing power structure, the improved performance will be routinized into an institutionalized order. If it is not, routinization will depend on the support the leader has from the collective identity of the three types of followers: passive, active, and committed. In any case, the collective identity will ameliorate the conditions which had made the situation conducive to charismatic leadership initially.

But some of the elite, being now mere participants in routine activities, will no longer be autonomously reinforced and become disenchanted. Others will defect, having committed themselves only to solve a personal problem (Smelser, 1963: 256-7). As a result, a bureaucracy develops to maintain performance. Bureaucratization causes depersonalization of those who are still active, and an (at least apparent) displacement of the original visionary goals, so that even passive followers become alienated. Thus the situation, though changed, reverts to what had made it conducive to charismatic leadership in the first place.

We have constructed a System Dynamics model of this theory (Fig.1). The present study set out to test whether the model, built as it is on the basis of a theory, can reproduce the empirical data relating to an actual charismatic leader, President John F. Kennedy (for the code, see Appendix).

AN EMPIRICAL CASE
The Peace Corps, a volunteer service for giving grass-roots aid to developing countries, was announced by John F. Kennedy shortly before being elected, in his vision to "get the country moving again". It was "the part of the aid effort which best expressed the spirit of the New Frontier" (Schlesinger, 1965:557). When, eight months later, the first Peace Corps Volunteers met with JFK prior to departing overseas, they regarded him not merely as their formally elected President, but identified with him personally (Wofford, 1980:249ff). Kennedy, aware of their commitment to his vision, told them that they were "the most immediate response that the country has seen to the whole spirit which I tried to suggest in my inaugural" (Rice, 1985:303).

JFK was a charismatic leader. In terms of our theory, he had articulated a vision of change, causing people to identify themselves as his followers; he had aroused many of them to want to participate actively in realizing the vision; and he had enthused the select elite among the active participants to commit themselves
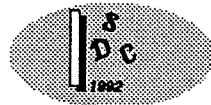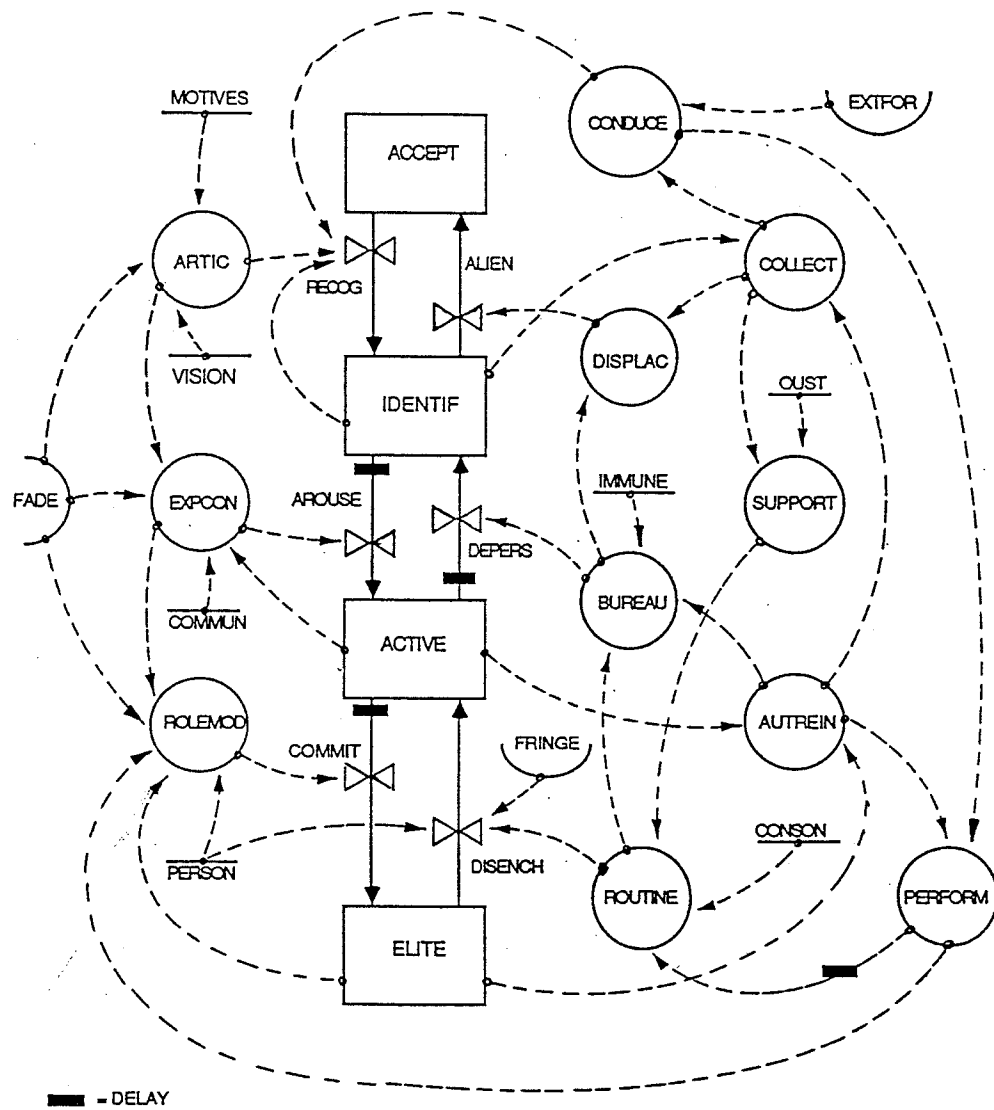
Figure 1. Flow Diagram

by joining. As for institutionalization, Rice (1985:ix) calls the Peace Corps JFK's "most affirmative and eduring legacy", and the evidence supports such an assessment. Delegating extensive powers to Sargent Shriver, the first P.C. director, he authorized the formal independence of the new bureaucracy from the Administration Establishment. At the time of its 25th anniversary in 1986, over 6000 Volunteers were active world-wide in 62 countries (General Accounting Office, 1989).

There also is evidence that disenchantment, depersonalization, goal displacement and alienation was felt at least by some of the Volunteers (Cowan, 1970). It seems reasonable, therefore, to take the Peace Corps as an empirical manifestation of JFK's charismatic leadership, affecting individuals as well as the organizational structure of his administration. Thus our model of charismatic leadership should be able to reproduce these effects with the corresponding model variables.

DATA AND RESULTS
We were able to locate four different time-series relating to the growth and subsequent routinization of the Peace Corps. The Annual Reports of the Peace Corps provide the yearly number of applications received. Based of U.S. Census figures, these were converted into yearly percentages of the relevant population, namely college graduates of that year. This data set (JFK1) corresponds to the model variable AROUSE. The same source also gives the annual numbers of actual trainees and volunteers who entered service. These figures, similarly converted into yearly percentages (JFK2), correspond to the rate of commitment to the cause (COMMIT).

The U.S. Budget for the years 1963-1988 provides the annual number of permanent paid staff employed by the Peace Corps. This, when related to the yearly number of Volunteers (JFK3), gives a reasonable indicator of bureaucratization (BUREAU). Finally, the Peace Corps has also published the number of volunteers annually who terminated their service overseas before their regular two-year tour of duty was up. These, computed as a percentage of the ELITE (JFK4), are an indirect indicator for the rate of disenchantment (DISENCH) for this period.

A measure of the of fit between model and data is given by TI (Trend Index), which is the percentage of data variance reproduced by the corresponding model variable. The TI values obtained were are follows:

$$JFK1 \ (AROUSE) \ = 90.0\%,$$
$$JFK2 \ (COMMIT) \ = 84.4\%,$$
$$JFK3 \ (BUREAU) \ = 36.4\%,$$
$$JFK4 \ (DISENCH) = 80.3\%$$

The plots (Figure 2) all show a fairly good fit between the trends, even for JFK3 and BUREAU where the TI was rather low.

Encouraging as these results are, we must emphasize that these simulations do not represent a test of the theory, since the model
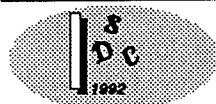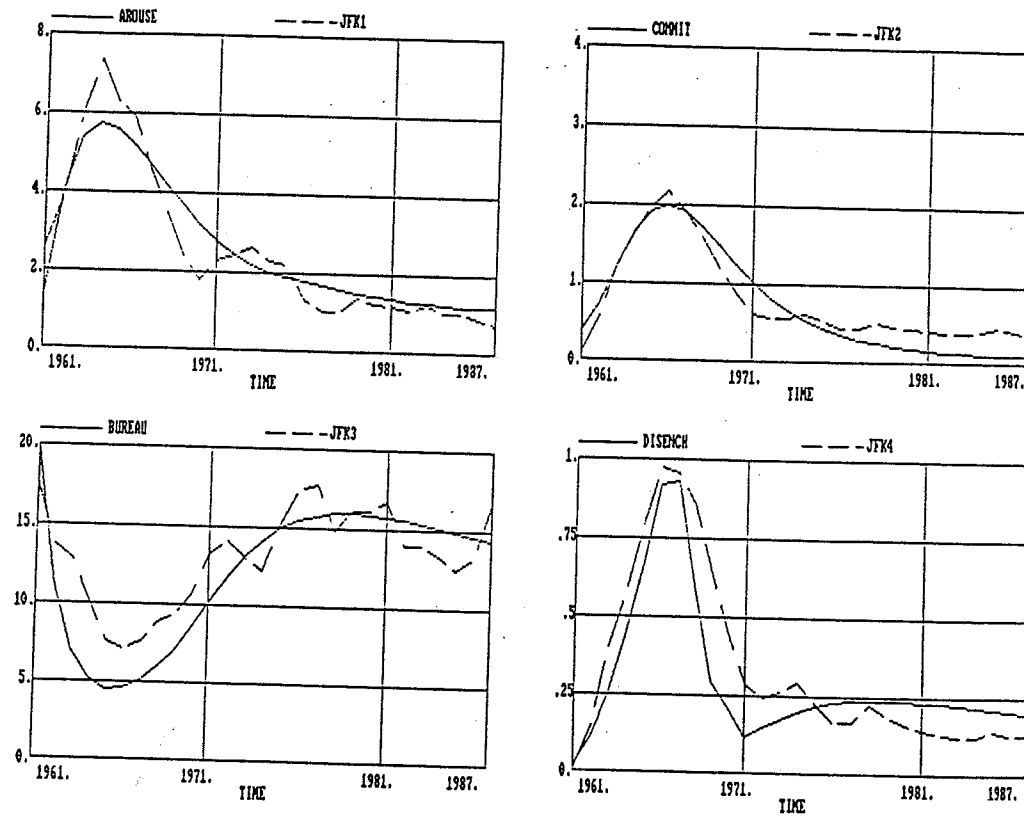
Figure 2. Plotted Output

was designed to be congruent with the theory, both in its structure
and its dynamics.   But they do show that the model, while
functioning as the theory would predict, can reproduce the complex
developments of an actual case of charismatic leadership.
Moreover, the empirical adequacy of the theory can now be
systematically tested by running the model against data on other
charismatic leaders. If the model can reproduce further data sets
also, solely from the internal dynamics of its fixed coefficients
acting on the initialized parameters, then we may conclude that the
theory provides an adequate explanation of the data.   Conversely,
if the model fails to reproduce the data, then either the theory
(and model) need to be revised or should be rejected.

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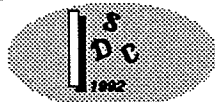
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APPENDIX

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*                      CHARISMA              Revised: 19-1-92
      A Model of Charismatic Leadership in Organizations

MACRO STAT(X,MEAN,VAR)
INTRN CUMX,CUMXSQ,ITIME,ELPST
L    CUMX.K=CUMX.J+DT*X.J
N    CUMX=0
A    MEAN.K=CUMX.K/ELPST.K
A    STAT.K=MEAN.K
A    ELPST.K=TIME.K-ITIME+1E-30
N    ITIME=TIME
L    CUMXSQ.K=CUMXSQ.J+DT*(X.J*X.J)
N    CUMXSQ=0
A    VAR.K=(CUMXSQ.K/ELPST.K)-(MEAN.K*MEAN.K)+1E-30
MEND
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                    SECTION I.   INITIALIZATIONS
                    (For JFK1, JFK2, JFK3, JFK4)

C   INIDEN=3            Initial Identifiers (pct.)
C   INACT=2.5           Initial Active      (pct.)
C   IELITE=.1           Initial Elite       (pct.)
C   MOTIVES=64          Leaders's Motives   (pct.)
C   VISION=0.75         Leader's Vision     (prob.)
C   COMMUN=0.65         Leader's Communication Skill (prob.)
C   PERSON=40           Leader's Personalized Charisma (pct.)
C   CONSON=80           Structural Consonance (pct.)
I   INCOND=20           Intl. Situational Conduciveness (pct.)
C   OUST=0              Ousting of Current Powerholders (Flag)
I   IPERF=1.0           Initial Performance (Output/Input)
C   STAFF=17.69         Salaried Staff (pct.)
C   DELITA=.1           Delay from IDENTIF to ACTIVE
C   DELATE=1            Delay from ACTIVE to ELITE
C   DELATI=1            Delay from ACTIVE to IDENTIF
C   DELPTR=2            Delay from PERFORM to ROUTINE
N   TIME=BEGTIME
C   BEGTIME=1961
C   ENDTIME=1987


        SECTION II.   VARIABLES AND RELATIONSHIPS

A   FADE.K=TABHL(TFADE,TIME.K,BEGTIME,ENDTIME,^
    (ENDTIME-BEGTIME)/10)
T   TFADE=1/.97/.92/.85/.75/.65/.57/.50/.45/.42/.40
                        Fading of charisma curve
L   ACCEPT.K=ACCEPT.J+DT*(ALIEN.JK-RECOG.JK)
N   ACCEPT=100-INIDEN-INACT-IELITE     Pct. Accepters
A   CONTAG.K=1+TABLE(TCONTAG,COLLECT.K,0,100,10)
T   TCONTAG=0/.03/.08/.17/.3/.5/.7/.83/.92/.97/1
                        Contagion Multiplier
A   ARTIC.K=((MOTIVES/100)*VISION)*FADE.K   Articulation (prob.)
L   IDENTIF.K=IDENTIF.J+DT*(RECOG.JK-AROUSE.JK+^
    DEPERS.JK-ALIEN.JK)
N   IDENTIF=INIDEN          Pct. Identifiers
A   EXPCON.K=100*((ARTIC.K*COMMUN)*ACTMUL.K*FADE.K)
                        Expressions of Confidence
A   ACTMUL.K=TABHL(TACTMUL,ACTIVE.K,0,100,10)
T   TACTMUL=1.5/1.47/1.41/1.33/1.24/1.16/1.1/1.06/1.03/1.01/1
                        Multiplier from ACTIVE
A   EEXPCON.K=CLIP(100,EXPCON.K,EXPCON.K,100)     Safety Clip
L   ACTIVE.K=ACTIVE.J+DT*(AROUSE.JK-COMMIT.JK^
    +DISENCH.JK-DEPERS.JK)
N   ACTIVE=INACT           Pct. Active Participants
A   ROLEMOD.K=((EEXPCON.K/100)*MODRF.K)*((100-PERSON)^
    /100)*FADE.K           Role Modeling (probability)
A   MODRF.K=TABHL(TMODRF,PERCHA.K,0,2,.2)
T   TMODRF=1/.97/.92/.85/.7/.5/.3/.15/.08/.03/.001
                        Metamorphic Reduction Factor
A   RROLEMOD.K=CLIP(1,ROLEMOD.K,ROLEMOD.K,1)     Safety Clip
L   ELITE.K=ELITE.J+DT*(COMMIT.JK-DISENCH.JK)
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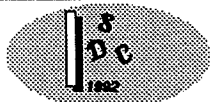
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N   ELITE=IELITE              Pct. Elite
A   COLLECT.K=100-ACCEPT.K      Collective Identity (pct.)
A   COLLRF.K=TABLE(TCOLLRF,COLLECT.K,0,100,10)
T   TCOLLRF=1.0/.97/.92/.83/.70/.50/.30/.17/.08/.03/.001
                      Collective Identity Reduction
A   AUTREIN.K=(ACTIVE.K/2)+ELITE.K
                          Automonously Reinforced (pct.)
A   PERFORM.K=IPERF*(CONDEF.K*AUTEFF.K)  Prfomnce (ratio)
A   CONDEF.K=TABLE(TCONDEF,CONDUCE.K,0,100,10)
T   TCONDEF=1/.97/.92/.85/.7/.5/.3/.15/.08/.03/.001
                              Conduciveness Multiplier
A   CONDUCE.K=INCOND*EXTFOR.K*COLLRF.K  Sitnl. Conduciveness
A   EXTFOR.K=TABHL(TEXTFOR,TIME.K,0,36,6)
T   TEXTFOR=1/1/1/1/1/1/1              Exogenous Forces
A   AUTEFF.K=TABLE(TAUTEFF,AUTREIN.K,0,100,10)
T   TAUTEFF=1/1.1/1.25/1.4/1.7/2/2.3/2.6/2.75/2.9/3
                 Autonomous Reinforcement Multiplier
A   PERCHA.K=PERFORM.K/IPERF  Performance change  (d.less)
A   PEREFF.K=TABHL(TPEREFF,PERCHA.K,1,3,.2)
T   TPEREFF=1/3/8/15/30/50/70/85/92/97/100
                              Performance Multiplier
A   SUPPORT.K=CLIP(COLLECT.K,PEREFF.K,OUST,.5)
                              Support for OUST
A   ROUTINE.K=DLINF3(SUPPORT.K,DELPTR)*CONSON/100
                              Routinization (pct.)
A   BUREAU.K=(STAFF+((ACTIVE.K+ELITE.K)*ROUTINE.K))/^
    ((ACTIVE.K+ELITE.K)*IMMUNE)     Bureaucratization  (pct.)
A   DISPLAC.K=COLLECT.K*(BUREF.K/100)
                              Goal Displacement   (pct.)
A   BUREF.K=TABLE(TBUREF,BUREAU.K,0,100,10)
T   TBUREF=5/8/13/20/30/45/60/70/77/82/85
                              Bureaucratization Multplr


              SECTION III.   RATES OF CHANGE

R   RECOG.KL=ACCEPT.K*ARTIC.K*(CONDUCE.K/100)*CONTAG.K
                              Pct. Recognition/year
R   AROUSE.KL=DELAY1((EEXPCON.K/100),DELITA)*IDENTIF.K
                              Pct. Arousal/year
R   COMMIT.KL=DELAY1(RROLEMOD.K,DELATE)*ACTIVE.K
                              Pct.Commitment/year
C   HAVEN=10          Yrs. people can shelter in ELITE
A   FRINGE.K=TABHL(TFRINGE,TIME.K,BEGTIME,BEGTIME+^
    HAVEN,HAVEN/10)
T   TFRINGE=15/14.8/14.5/14/13/11/7/3/1/.5/.2
                              Lunatic fringe (pct.)
R   DISENCH.KL=(ROUTINE.K/(100-PERSON))*ELITE.K*FRINGE.K
                              Pct. Disenchantment/year
R   DEPERS.KL=ACTIVE.K*DELAY1(DEPERF.K,DELATI)
                              Pct. Depersonalization/year
A   DEPERF.K=TABLE(TDEPERF,BUREAU.K,0,100,10)
T   TDEPERF=0/.03/.08/.17/.3/.5/.7/.83/.92/.97/1
                              Depersonalization Multplr
R   ALIEN.KL=(DISPLAC.K/100)*IDENTIF.K   Pct. Alienation/year
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                        TERMINATION
A   TERM.K=CLIP(0,1,0,IDENTIF.K)*CLIP(0,1,0,ACTIVE.K)^
            *CLIP(0,1,0,ELITE.K)          Run termination
A   LENGTH.K=CLIP(TIME.K,ENDTIME,0,TERM.K)  Run length

                        DATA SETS
A   JFK1.K=TABLE(TJFK1,TIME.K,1961,1987,1)  Applicants (AROUSE)
T   TJFK1=2.575/3.878/6.083/7.387/6.306/5.909/4.557/3.492/^
            2.446/1.773/2.307/2.451/2.628/2.283/2.185/1.352/^
            1.035/1.018/1.360/1.218/1.162/1.077/1.233/1.019/^
            1.017/0.883/0.714

A   JFK2.K=TABLE(TJFK2,TIME.K,1961,1987,1)      Joiners (COMMIT)
T   TJFK2=.108/.545/1.197/1.631/1.983/2.176/1.936/1.585/1.225/^
            .887/.616/.563/.574/.609/.533/.443/.428/.527/.474/^
            .451/.408/.398/.402/.417/.456/.415/.376
A   JFK3.K=TABLE(TJFK3,TIME.K,1961,1987,1)  Paid staff (BUREAU)
T   TJFK3=17.69/13.73/12.91/10.14/7.63/7.11/7.65/8.81/9.33/^
            10.68/13.26/14.14/13.10/12.30/15.27/17.44/17.83/^
            14.90/16.20/16.11/16.73/14.08/14.06/13.38/12.49/^
            13.30/16.74

A   JFK4.K=TABHL(TJFK4,TIME.K,1961,1986,1)     Leavers (DISENCH)
T   TJFK4=.01/.141/.399/.574/.793/.975/.960/.861/.642/.448/^
            .286/.239/.258/.290/.226/.164/.169/.221/.185/.163/^
            .140/.129/.125/.125/.139/.129

                TREND INDEX CALCULATIONS   (with MACRO)
A   DEVSQU1.K=(AROUSE.KL-JFK1.K)*(AROUSE.KL-JFK1.K)
A   NUMER1.K=STAT(DEVSQU1.K,MN1.K,VN1.K) numerator for TI1
A   DENOM1.K=STAT(JFK1.K,MD1.K,VD1.K)  denominator for TI1
A   TI1.K=(1-(MN1.K/VD1.K))*100        Trend Index for JFK1

A   DEVSQU2.K=(COMMIT.KL-JFK2.K)*(COMMIT.KL-JFK2.K)
A   NUMER2.K=STAT(DEVSQU2.K,MN2.K,VN2.K) numerator for TI2
A   DENOM2.K=STAT(JFK2.K,MD2.K,VD2.K)  denominator for TI2
A   TI2.K=(1-(MN2.K/VD2.K))*100        Trend Index for JFK2

A   DEVSQU3.K=(BUREAU.K-JFK3.K)*(BUREAU.K-JFK3.K)
A   NUMER3.K=STAT(DEVSQU3.K,MN3.K,VN3.K) numerator for TI3
A   DENOM3.K=STAT(JFK3.K,MD3.K,VD3.K)  denominator for TI3
A   TI3.K=(1-(MN3.K/VD3.K))*100        Trend Index for JFK3

A   DEVSQU4.K=(DISENCH.KL-JFK4.K)*(DISENCH.KL-JFK4.K)
A   NUMER4.K=STAT(DEVSQU4.K,MN4.K,VN4.K) numerator for TI4
A   DENOM4.K=STAT(JFK4.K,MD4.K,VD4.K)  denominator for TI4
A   TI4.K=(1-(MN4.K/VD4.K))*100        Trend Index for JFK4

SAVE ACCEPT,IDENTIF,ACTIVE,ELITE,COLLECT,CONDUCE,CONTAG,^
     EXTFOR,ARTIC,FADE,EEXPCON,RROLEMOD,AUTREIN,PERFORM,^
     PERCHA,ROUTINE,BUREAU,DISPLAC,RECOG,AROUSE,COMMIT,^
     DISENCH,DEPERS,ALIEN,FRINGE,JFK1,JFK2,JFK3,JFK4,^
     TI1,TI2,TI3,TI4
SPEC DT=.125,PRTPER=1,PLTPER=1,SAVPER=1
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