The Effect of Education on Participation in Flexible Spending Accounts

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In order to better understand employee benefit decisions, this research identified factors associated with the decision to participate in a flexible spending account (FSA) for medical expense reimbursement. Participation was positively related to income and to education. A logistic regression of the likelihood of participation on family income and education showed that participation increased with income, but at all income levels, participation increased with education. The independent effect of education suggests the need to more clearly communicate the benefits of such programs to those with less education.
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One of the major developments in financial well-being over the past 75 years has been the increasing array of fringe benefits provided by employers to their employees (Wiatrowski, 1990). The appearance and subsequent growth of employer-provided benefits since the early 1900s have been stimulated by the changing needs of employees and their families as well as by changes in government policy in the benefits area. Prior to the Great Depression, neither employers nor the government provided institutional mechanisms to meet familial needs

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for insurance protection and retirement security. The extended family was typically relied upon to provide a security net with family members generally looking after and supporting one another. However during the 1930s, the great hardships experienced by American families led to greater government participation in compensation programs, most markedly through the introduction of social security. It was also at this time that employers began offering retirement plans to supplement social security and small amounts of life insurance.

Increases in employee compensation during World War II consisted largely of fringe benefits since wage increases were restricted by the War Labor Board. Employers offered a variety of benefits that were less inflationary than wage increases such as paid time off, limited medical care, and retirement benefits. Following the war, the labor force returned to its male-dominated status when servicemen returned home, married, and had children. Employers addressed the needs of these traditional families with benefit programs including additional paid leave, more extensive medical benefits, and protection against lost wages. During the 1960s, employee benefit packages were expanded and became more generous. But despite dramatic demographic changes in the American family which began to significantly alter the workforce, employee benefits were still geared toward a traditional family with a working husband, a non-working wife, and school-age children (Employee Benefit Research Institute, 1987).

The period from the mid-1970s to present is an era dominated by two major trends. There have been major changes in the demographics of the U.S. labor force as well as significant government regulation of benefits. In 1989, 57% of all women above age 16 were in the labor force compared with only 37% in 1959. By 1987, both spouses were working in 57% of married-couple families, and it had become less common for women to leave the labor force for any substantial period of time following childbirth (U.S. Bureau of Labor Statistics, 1989). In light of these changing demographic characteristics of families, employers began offering employees more opportunities to choose benefits suited to their specific family needs. While a traditional benefit plan may provide valuable benefits for a family, it is impossible for one set of benefits to provide optimal compensation to meet diverse family needs. For example, a young, dual-earner family with children might receive duplicate health insurance coverage (each employer offering medical coverage for the family) which could not be fully utilized while, at the same time, not receive assistance for other important needs

such as life insurance, disability income insurance, or child care expenses.

In addition to a changing workforce which provided an incentive to employers to offer flexible benefit plans, Section 125 of the Internal Revenue Code (entitled Cafeteria Plans) granted the means to give employees an even greater degree of choice in benefits. The Tax Reform Act of 1986 expanded the definition of a cafeteria plan to allow a choice between various qualified nontaxable benefits, with the salary reduction contributions to a cafeteria plan generally not considered gross income for federal income tax purposes (Ernst & Whinney, 1986). Provisions for flexible spending accounts (FSAs) were also included in this tax legislation. In recent years employers have sought to reduce the cost of benefit plans by shifting some of the costs to employees. FSAs have become one of the fastest growing benefits provided by companies for their workers as FSAs can help defray the increased financial burden being shifted to employees (Luciano, 1989).

An FSA is a type of cafeteria benefit plan offered by employers which allows participants a choice between taxable cash wages and pre-tax payment (or reimbursement) of eligible, tax-favored benefits. The primary use of FSAs is for medical plan premiums and unreimbursed medical expenses that the Internal Revenue Service considers deductible (IRC 213 expenses) with lesser usage for dependent care expenses (within Section 129 guidelines) and qualified group legal services (within Section 120 guidelines). In most cases, FSAs are funded through a salary reduction agreement. From the employee's perspective, money is withheld from his/her salary and deposited in an FSA. When an eligible expense occurs, the employee pays for the expense and then files for reimbursement through his/her FSA. Using this benefit, the employee shelters wages from federal income and social security taxes as well as most state and local income taxes rather than waiting until a potential tax deduction can be taken when filing income tax returns.

There are significant restrictions placed on FSAs which must be considered in order to take optimal advantage of this benefit. Among these restrictions are:

- Money left in the FSA at the end of the plan year cannot be carried forward into the next year nor can it be returned to the

employee as taxable income. The employee must "use it or lose it." Excess funds revert to the employer.

- Contributions for each type of FSA must be kept separate from money allocated for every other type of FSA in individual sub-accounts. For example, health care expenses cannot be reimbursed from contributions made to a dependent care FSA.
- Salary reduction elections are made individually for each type of FSA at the beginning of each plan year. Unless an employee experiences a change in family status (such as marriage, divorce, death, birth, or change in employment), these elections cannot be changed during the year. If a family were experiencing lower (or higher) than expected health care expenses, the employee could not reduce (or increase) the amount being withheld from his/her payroll check for the medical expense FSA.
- There is no statutory limit on medical expense FSAs; however, employers typically set upper limits with the average among large firms being $2,900 (Thompson, 1991). Dependent care accounts may not exceed $5,000 a year.

Expenses paid through an FSA cannot be used as either an itemized deduction or a tax credit. In addition, the final responsibility for the tax status of filed expenses rests with the employee who is liable for all potential taxes, penalties, and interest charges.

Essentially, an FSA is a tax-planning mechanism that may be used only when offered through an employer. The primary benefit of the FSA is tax reduction. For example, a married taxpayer who does not have enough itemized deductions to exceed the standard deduction ($6,200 in 1993 for a joint return) receives no tax reduction for medical expenses and medical insurance premiums paid. Additionally, taxpayers who do itemize deductions can reduce taxable income by only the amount of their unreimbursed medical expenditures that exceed 7.5% of their adjusted gross income. A family of four with medical expenditures of $4,500 and an adjusted gross income of $50,000 would be able to reduce its taxable income by only $750 ($4,500 - [$50,000 x 0.075]). The tax savings for this family, assuming a 15% marginal tax bracket, would be only $113 ($750 x 0.15) by including these medical expenses as itemized deductions. This same family would receive a $675 ($4,500 x 0.15) reduction in income taxes if the $4,500 medical expenses had been paid through an FSA. This amounts to a difference of $562 ($675 -$113), and the tax savings would be even greater for families in higher marginal tax brackets.

In some cases, however, a taxpayer would pay higher taxes using an FSA compared to other tax strategies. For example, a taxpayer with an adjusted gross income of $20,000 and child care expenses of $2,000 receives a dependent care credit and tax reduction of $500 ($2,000 x 0.25). Contributing $2,000 to an FSA for child care expenses would reduce taxes by only $300 ($2,000 x .15) since this taxpayer would be in the 15% marginal tax bracket. Other negative aspects of the FSA include the potential loss of unused funds at the end of the year, the need for resources to pay directly for an expenditure at the same time that funds are deducted from the paycheck for the FSA, and the paperwork and recordkeeping required to utilize an FSA effectively.

Twenty-three percent of all U.S. workers in medium to large firms were eligible for FSAs in 1989, up from only 5% of workers in 1986 (U.S. Bureau of Labor Statistics, 1990). FSAs are currently offered by approximately one-third of major corporations, and nearly half of all companies are expected to offer these accounts within the next few years (Luciano, 1989). Although benefits experts expect an explosion of FSA plans among small companies, few small firms now offer them. Research by pension consulting firms suggest that fewer than 25% of all employees whose companies offer FSAs participate in them (Piturro, 1989; Luciano, 1989). However, significantly higher percentages, approximately 40%, of eligible employees in smaller companies participate in FSAs (Thompson, 1991). According to Steven Fein, an adviser with a major benefits consulting firm, "Most people could save a bundle of money with these accounts, yet they just don't bother" (Luciano, 1989).

Rationale

According to Key and Firebaugh (1989), "We undertake the study of resource allocation behavior of families not only because it is an intrinsically interesting social phenomenon, but also because it is a powerful antecedent of family well-being and security" (Key & Firebaugh, 1989). The objective of this research was to investigate what financial and non-financial factors are influential in the decision of an employee to participate in an FSA for medical care expenses. Most people would save money by using a medical care FSA, yet many do not take advantage of the opportunity to use an FSA when it is possible. Very few people receive any tax benefit from claiming medical expenses as itemized deductions, and forfeitures of unused

balances on FSAs typically range from $12 to $30, less than 7% of contributions (Piturro 1989; Luciano 1989). Given that the benefits of the decision to participate can be estimated, the results of this study should provide some insights into family financial management behavior.

Consumer economic theory suggests that rational consumers make financial decisions that maximize the satisfaction received from their time and money resources. This is done by utilizing a series of cost/benefit analyses and choosing those actions which yield the highest net benefits, considering both money and time. Using this approach, if benefits minus costs are greater than zero, then the decision should be positive (Miller, 1990). The projected costs and benefits of using an FSA for medical care expenditures provided the rationale for the independent variables studied in this investigation.

The primary benefit of using an FSA for medical care reimbursement is the tax savings that results. Virtually any employee with a federal income tax liability and unreimbursed medical expenses would save some money by using a medical care FSA; however, the higher the employee's taxable income, the greater the tax savings. For example, a higher-income family in the 31% marginal tax bracket will save 31% of the amount contributed to an FSA while a lower-income family in the 15% marginal tax bracket will save only 15% of their contribution amount. In addition, the tax savings will increase as the amount of the contribution increases, assuming a fair degree of accuracy in predicting future medical expenses. A person in the 28% marginal tax bracket with $100 of unreimbursed medical expenses would save only $28 using an FSA while another person in the same marginal tax bracket with $1,500 of unreimbursed medical expenses would save $420. Therefore, it was hypothesized that there would be a positive relationship between income and FSA participation as well as between out-of-pocket medical expenses and participation in a medical care FSA. Recognizing that some individuals place a higher value on saving tax dollars than others, either because they put relatively more value on a dollar or because they just dislike paying taxes, it was also hypothesized that there would be a positive relationship between employee interest in saving tax dollars and FSA participation.

A major cost of FSA participation is the potential of losing part of the contributions because of the "use it or lose it" aspect of the regulations. In addition, there are the time costs required in projecting future

expenditures and in keeping track of and processing expenditures for reimbursement through the FSA.

Other factors studied in this investigation were demographic variables, including education, Private surveys by benefit consulting firms indicate that participation in FSAs varies widely, depending on many factors including employee demographics (Piturro, 1989); however, due to the proprietary nature of such information, little is published regarding these relationships. In addition, variables measuring time spent on making the FSA decision, participants in the decision-making process, and the information sources utilized in making the FSA decision were included in this analysis to facilitate understanding of family decision-making processes. It was expected that more educated respondents would be more likely to participate than those with less education.

Research Design

Data for this study were collected from a random sample of 660 full-time employees of a major public university in November 1988, approximately two months after employees had made their decisions regarding FSA contributions. This sample was utilized because it represented a large, intact group in its first year of potential FSA participation. The FSA plan offered by the employer included both medical expense and child care reimbursement accounts; however, this study focuses only on medical expense reimbursement accounts. The initial information regarding the addition of FSAs to the fringe benefit package was sent to employees in April 1988 as part of a one-page monthly newsletter published by the personnel department. The most comprehensive form of written information about the new benefit was a 22-page booklet which thoroughly explained the program and included worksheets to guide the employee in estimating expenses and tax advantages. However, it was not distributed to employees until late July, just one month prior to the August 31st decision deadline. In addition, the personnel department held a series of seminars in late July and early August for employees wanting to know more about the benefit and worked with employees on an individual basis.

The sample for this study was drawn randomly from the official employee directory during the first month following its publication. A self-administered questionnaire was mailed and a reminder letter was

sent to employees who had not returned the questionnaire within two weeks. Using this procedure, 373 questionnaires were completed. However, only the 312 questionnaires that were clearly marked regarding the amount of contribution to the FSA medical expense reimbursement account were used for this analysis, resulting in a 47% response rate. The questionnaire focused on 1) FSA participation for medical expense reimbursement, 2) past and future out-of-pocket medical expenses, 3) demographic characteristics, and 4) decision-making factors including time spent and sources of information used in making the FSA decision. FSA participation was measured by the response to the following question:

> "How much are you contributing to your medical/dental reimbursement account each month? Do **not** include premiums for your group insurance." A respondent was categorized as an FSA participant if he/she voluntarily contributed at least one dollar to the FSA medical reimbursement account, although the minimum monthly contribution for participants was $15.

Nonparticipants were coded = 0 while participants were coded = 1. Respondents were asked not to consider the premiums for their group insurance because the employer automatically deducted those premiums on a before-tax basis.

Descriptive statistics were used to provide a demographic profile of the total sample as well as the profiles of FSA participants and non-participants. Logistic regression analysis was used to test the hypotheses regarding participation in the medical expense FSA (Aldrich & Nelson, 1984; Fox, 1984). T-tests were also employed to identify additional statistically significant differences between FSA participants and non-participants.

A major limitation of this research is that all respondents worked for the same employer. Therefore, the timing of the FSA announcement, how the information was presented, and demographic characteristics of the employee group limit our ability to generalize to a wider population. In addition, no information was collected regarding the spouse's benefit plan, particularly the presence of an FSA through the spouse's employer. A married couple might choose to use one rather than two FSAs in order to reduce recordkeeping confusion in the household; therefore, this could be an important determinant of FSA participation.

Results and Discussion

Descriptive Analysis

Respondents were primarily white (86%), married (64%), and highly educated. Nearly one-fourth of the respondents had a Bachelor's degree, and over two-fifths held advanced degrees. The sample was evenly divided between males and females, and respondents' ages ranged from 19 to 72 years with the median being 40 years of age. Forty-one percent of the respondents had children under the age of 25. The expected median family income before taxes for 1988 was reported to be approximately $35,000. Since the employer maintains only the demographic data required by the Equal Employment Opportunity Commission, a comprehensive comparison of demographic profiles of the sample and the population from which it was drawn was not possible. However, we do know that whites and females are somewhat overrepresented in this sample.

Nearly one-fourth of the respondents contributed to a medical expense reimbursement FSA, significantly more than the 12% of employees in the population who participated in this benefit. Monthly contributions ranged from $15 to $300 with the median contribution being $55 for those participating in the FSA. Two-thirds of the respondents felt that their contributions were "about right" with one-fourth saying their contributions were "low." The following were reported by at least 30% of the sample as being among the three most important factors considered in making the decision about FSA participation:

1. Risk of not using all of the FSA contribution and then losing the money (86%).
2. Uncertainty about the amount of future medical expenses (56%).
3. Risk of not putting enough money into the FSA program and losing the tax break (35%).
4. Difficulty in figuring how much to contribute each month (32%).
5. Paperwork required to get reimbursed through the FSA (30%).

T-Test and Chi-Square Analyses

All of the independent variables that were significantly related to FSA participation using t-test and chi-square analyses are reported in Table 1 and Table 2, respectively. For discussion purposes, these variables have been divided into demographic variables, past and expected expense variables, and decision-making variables.

Table 1.
Variables Significantly Related with Flexible Spending Account Participation for Medical Expense Reimbursement Using T-Test Analysis.

Variables	Total Sample	Participants	Non-participants
	Mean	Mean	Mean
Age in years	41.4	45.0	40.2***
Education of respondent in years	13.0	13.5	12.8***
Family income before taxes (1988)	$41,656	$55,435	$37,652***
Out-of-pocket medical expenses previous plan year	$165	$346	$101***
Expected out-of-pocket medical expenses this plan year	$598	$873	$510***
Number of times family went to dentist over past 3 years	7.5	10.1	6.6*
Hours respondent spent on FSA decision	2.1	3.0	1.8***
Total hours spent on FSA decision	3.1	4.5	2.7***
Number of information sources used	2.7	2.9	2.6*
Risk of losing tax break[1]	2.5	2.9	2.4***
Paperwork required for reimbursement[1]	2.7	2.3	2.8***
Recordkeeping required[1]	2.6	2.4	2.8**
Uncertainty about future medical expenses[1]	3.2	3.0	3.3*

* Significant at the .05 level.
** Significant at the .01 level.
*** Significant at the .001 level.
[1] 1=no attention, 2=very little attention, 3=some attention, 4=very much attention

Demographic variables.
The mean and median family incomes of participants were nearly $18,000 and $20,000 higher, respectively, than that of nonparticipants. This strong relationship between family income and FSA participation was expected since the tax savings accrued through FSA participation are directly related to one's marginal tax bracket. In addition, higher income respondents may have been more likely to participate in an FSA because they had more money available for medical expenses. The average education level of FSA participants was also significantly

higher than that of nonparticipants. This could be partially explained by the relationship between income and education. However, the logistic regression model indicated that education provided unique independent contributions to the prediction of FSA participation. Perhaps more highly educated employees were better informed about the potential benefits of the medical expense FSA or possibly they were simply more open to new concepts (Robertson, 1971). Respondents were asked where they got their information about the FSA program. The most frequently mentioned sources were the FSA booklet distributed by the employer (82%), a personnel department newsletter (79%), co-workers/friends (40%), employer-sponsored orientation meeting (29%), and personnel office employees (27%). FSA participants were more apt to have used the FSA booklet and personnel office employees in making this decision than were non-participants. Ninety-five percent of participants in contrast to 81% of non-participants reported using the FSA booklet, while 44% of participants and 25% of non-participants discussed the FSA decision with personnel office employees. In addition, FSA participants used significantly more sources of information than did non-participants, a mean of 2.9 rather than 2.6.

When asked to rate how much attention they paid to various factors in making the FSA decision, there were statistically significant differences between participants and non-participants on four of seven factors. Participants paid relatively more attention than nonparticipants to the risk of putting too little money into the FSA program and thus losing the potential tax break. Nonparticipants, on the other hand, paid relatively more attention than participants to 1) the paperwork required to get reimbursed through the FSA, 2) the recordkeeping required when using the FSA, and 3) the uncertainty about the amount of future medical expenses. These findings are consistent with the cost-benefit analysis. Participants who focused on maximizing the tax benefit saw the FSA as a way to keep more of their earned income. Nonparticipants concentrated on both the time and potential monetary costs associated with FSA participation seeing the program as a risk of losing money and a hassle.

The participation rates by education category are shown in Table 2. The participation rate was significantly related to education level. Respondents with a high school diploma or less had only a 2% participation rate, those with a bachelor's degree had a 16% rate, and

those with a college degree had a 37% participation rate. It is possible that the relationship between education and the participation rate was due to the relationship between education and income. Therefore, a multivariate analysis was conducted to find the effect of education after controlling for the effects of income.

Table 2. Participation Rates in Flexible Spending Accounts by Education

Education Category	Participation Rate
1. High School or Less	2%
2. Some College or technical school	15%
3. Bachelor's degree	16%
4. Graduate degree	37%

Chi Square = 28.4 (d.f.=3), significance level=0.00.

Logistic Regression Analysis

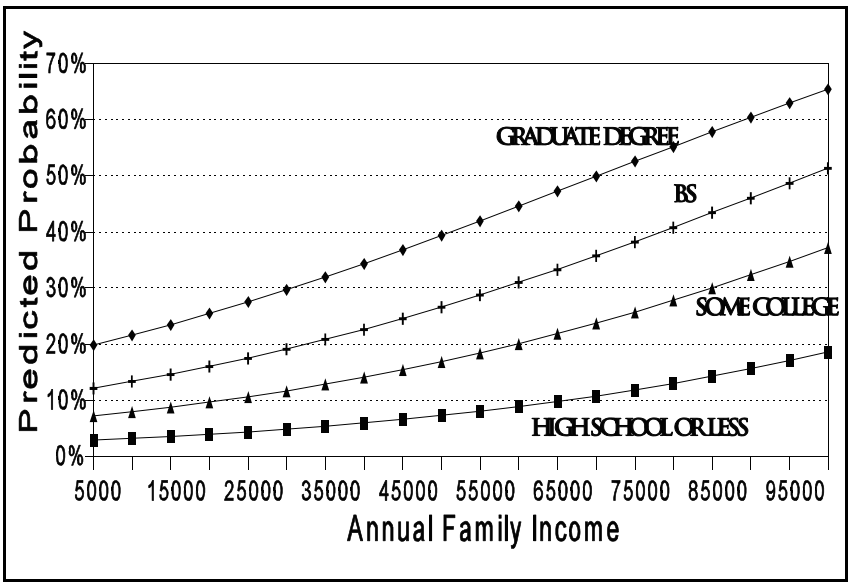
A logistic regression was run to find the independent effects of income and education on FSA participation (Table 3). Using only those two variables, the model correctly predicted FSA participation for 73% of the respondents. Family income and education of the respondent each had a significant positive effect on the participation rate. The predicted participation rates for combinations of family income and respondent education are shown in Figure 1.

Table 3.
Logistic Regression of Medical Expense Flexible Spending Account Participation on Family Income and Education.

Variable	B	p	
Family income (ten thousands) before taxes			.2101
.0015			
Education, 1 to 4 scale (see Table 2)		.5808	.001
2			
Intercept		-3.9525	.0001

Model Chi Square = 39.5250 (p=.0001)
SAS logistic regression procedure.

Figure 1.
Effect of Family Income and Education on Predicted Participation in Flexible Spending Accounts. (Based on logistic regression in Table 3.)



At the mean level of education, the predicted probability of FSA participation increased from 13% at a family income level of $10,000 per year to 26% at a family income of $50,000 per year. Predicted participation was 51% at an income of $100,000. Clearly, participation was strongly related to income, which is logical given that tax benefits tend to increase with income. However, at any level of income, predicted participation was substantially higher for more educated respondents than for less educated respondents. At the mean level of family income ($41,656), respondents with a high school degree or less had a predicted participation rate of 9%, those with some college had a predicted rate of 15%, those with a bachelor's degree had a predicted rate of 23%, and those with a graduate degree had a predicted rate of 35%.

Conclusions and Implications

Employee benefits have grown in importance over the last 75 years until they now account for nearly 30% of employee compensation (U.S. Bureau of Labor Statistics, 1989). The more recent changes in

benefits have included greater choice being given to employees and a tendency to pass more of the cost of these benefits on to the employee, particularly in the area of medical care. While there are many advantages to a system that allows employees to select the benefits which best fit their needs, there is also an increased level of financial risk if employees do not make appropriate decisions. In order to better understand employee benefit decisions, this research investigated factors associated with the decision to participate in one part of a cafeteria benefit plan--a flexible spending account for medical care reimbursement.

The findings indicate that first year participation in a medical expense FSA was relatively low for the employer in this study. This was true even though the overall income and education levels of the employees were relatively high. Only 24% of the respondents in this study were contributing to medical care reimbursement accounts, which is similar to the average rates reported by national pension consulting firms (Piturro, 1989; Luciano, 1989). However, the participation rate of this study's sample was double that of the employer's overall participation rate--24% vs. 12%, respectively. The low participation rate could be attributed to the newness of the plan, the limited time employees were given to make the participation decision, or the low expected out-of-pocket medical expense due to HMO enrollment. Fifty-two percent of the random sample and 41% of the total population were enrolled in HMOs which required minimal out-of-pocket medical expense. Other factors encompass the time required for recordkeeping and paperwork associated with reimbursement and lack of knowledge about FSAs as a financial planning tool.

Family income and education were the most powerful predictors of the decision to participate in this fringe benefit option. Taking the income and education level of the workforce into account would be important both in an employer's decision to offer FSAs as part of a fringe benefit package, and in communicating the features of the program to employees. Based on this research, a medical expense FSA would be considered a more valuable benefit for a highly educated, well paid employee group comprised predominately of males. During times when employers are trying to reduce the cost of their fringe benefit plans, employees' financial positions are enhanced when their employer offers a package of benefits well tailored to the group members' financial needs.

The unique contribution of education in predicting FSA participation and the complex nature of this benefit suggest that methods of communicating FSA benefits to employees might be quite important. Well-designed materials targeted to lower educational levels could substantially increase participation rates at all income levels. In addition to including clear information regarding the important characteristics of a flexible spending account, these materials would also need to help employees estimate future expenses that could be reimbursed through their FSAs.

Study of decision-making regarding employee benefits is an emerging area that deserves further research effort. Further work is needed regarding knowledge of tax, time orientation, and financial management style as they relate to FSA participation. Is FSA participation related to other tax planning behaviors, such as buying municipal bonds and contributing to 401(k) accounts? Is FSA participation related to the type of medical plan chosen and/or a predisposition toward preventative medicine? Further research on these and other questions is warranted.

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