

Resource allocation
in divisionalized groups:
A survey of major Swedish groups

by

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There are also case studies of investment processes that show how capital investments are championed and evaluated in companies and groups (e.g. Aharoni, 1966; Bower, 1970; King, 1975; Persson, 1980; Lumijärvi, 1991).

However, there are few studies of capital budgeting manuals. The author has only been able to identify two American (Istvan, 1961a; b; Mukherjee, 1988) and two Swedish (Renck, 1966; Tell, 1978) studies.

How corporate managers try to exert control over capital investments is partly treated in the literature on the role of the head office in divisionalized and multinational groups (e.g. Eliasson, 1976; Goold and Campbell, 1987; Lorange, 1993).

3. Research Methodology

The article draws on interviews with corporate managers responsible for investment procedures in thirty-four groups and analysis of the capital budgeting manuals of twenty-nine groups listed on the Stockholm Stock Exchange.

Earlier studies of capital budgeting manuals (Renck, 1966; Tell, 1978) showed that manuals could be expected to be used by the fifty-four groups classified by the business magazine *Veckans Affärer* as engineering, electro-engineering, metal, chemical, pharmaceutical, and forest industries and the category remaining companies (conglomerates and other groups difficult to classify). Thirty-nine of the fifty-four groups used a manual, and in 1990-91 copies of 74% of these manuals were received, or 81% of those groups that had an approved manual at the time of the request. As shown by Table 1 the manuals have a similar distribution to industries as earlier studies from 1964 (Renck, 1966) and 1977 (Tell, 1978). Note that the sample excluded companies in the above mentioned lines of business listed on the over-the-counter list.

The companies were contacted by a letter addressed to the chief financial executive of the group. Those executives who had not answered the second letter were all contacted by telephone whereby the response rate could be increased three times. The most important reason for some groups not wanting to participate in the study seems to have been that the financial executive of the group did not want to supply an outsider with this internal document.

The analysis of manuals was followed up by interviews in nineteen of the fifty-four groups selected by random number from a list stratified with regard to the market value of the groups. Fourteen of these groups used a manual. The interviews were conducted with the chief financial executive of the group, the corporate controller or another person responsible for the capital budgeting routines of the group (see Group 1, Table 2). In 1993 shorter interviews were held with the same people that had been interviewed earlier to investigate developments during the recession 1990-1993.

Table 1. Manuals divided on line of business

	1964	1977	1990-91	Non responses
Engineering industry	8	9	11	3(2)
Electro-engineering	3	2	2	0(0)
Mines and metal industry	7	6	3	0(0)
Chemical and phar. industry	2	2	3	1(1)
Forest industry	3	3	5	1(1)
Conglomerates and others	5	8	5	X3)
Total	28	30	29	10(7)

Note: Ten groups did not wish to **participate** in the study. However, only **seven** of these had an **approved** manual at the time of the request.

Table 2. Interviews

	Group 1	Group II	Total
Chief financial executive	8	12	20
Corporate controller	7	1	8
Manager responsible for capital budgeting routines	6	0	6
Other	7	6	13
Total	28	19	47
Number of groups	19	15	34

To make industry **comparisons** possible interviews were **also** carried out in fifteen groups at corporate level with **financial** managers of fifteen groups in lines of business that normally lack a capital budgeting manual, as for instance, banks, shipping, trading, software and **consulting** fiis, and groups **listed** on the over-the-counter list (Group II). No Company refused to give an interview. All interviews were taped, **transcribed**, and sent to the interviewees for **comments**.

4. Investment processes and head office control

4.1 *The path of the investment request*

In divisionalized companies most investment ideas originate from business level and people in contact with production (Istvan, 1961a; Bower, 1970; Williams, 1970). It is the small and medium-sized reinvestments, often combined with capacity, product or productivity improving measures that dominate. Requests for major investments, expansion investments or ventures in new areas, are much rarer (Istvan, 1961a).

The investment request is made by an engineer (Istvan, 1961a; Mukherjee, 1988), often in cooperation with the economist of the plant. If the manager of the plant does not have the authority to decide on the investment in question, he or she can choose to sign the request and refer it upwards in the hierarchy for approval and funding.

Depending on how far up in the hierarchy the request is referred and what kind of investment it is, the request might be reviewed by several stations; staff units and managers that have different interests to look after.

Investment requests are rartked at business and divisional levels (Oblak and Helm, 1980; Mukherjee, 1988). Requests that reach corporate level are seldom turned down definitely (Gitman and Forrester, 1977; Oblak and Helm, 1980; Scapens, Sale and Tikkas, 1982). If corporate managers feel uncertain they ask for additional information, and it is of course also not in the interest of lower managers to submit a request that might be turned down definitely (Bower, 1970).

Some types of investments might be initiated at higher levels. That is true for e.g. divestments and investments due to re-structuring of groups; decisions to locate and re-locate production. Acquisitions, on the other hand, may be initiated at any level; from group board down to business level.

4.2 *Corporate requirements on investments*

The managers interviewed at corporate level pointed out that all investments have to satisfy certain requirements for

- * profitability
- * finance
- * strategy
- * co-ordination and implementation

It should be observed that these requirements have different weight at different levels of a group. The profitability calculation is normally made at business level. The corporate level relies on business and divisional levels having assessed the profitability of the investment and calculations are seldom made at this level. Neither does it seem common for decision makers

at corporate level in major Swedish groups to be confronted by requests presenting different investment or design alternatives, as is the case in “almost all” (Mukherjee, 1988, p. 30) U.S. manuals (see also Istvan, 1961a).

Corporate level is more involved in the **finance** issue e.g. by approving the volume of investment, debt-equity ratio, profitability requirements and raising of funds of companies of the group. Moreover, many groups **have directions** that stipulate that corporate level **financial** staff shall be contacted before **entering** a lease agreement and when the financing of major investment is **decided**.

The most important issue for corporate managers is strategy. Corporate managers want to make sure that **the** investment is in agreement with previously **approved** strategies, and if it is not, to consider it **more** in detail. The formal approval of investment requests therefore often has the character of controlling how already **approved** strategies **have** progressed. This makes the timing of investments an important issue and might **also** explain why the corporate level in most groups is seldom **asked** to make **decisions** on alternative investments.

Bower (1970) has emphasized the **role** of divisional managers to **manage** the part-whole relationship, and **act** as **linking** pins between business and corporate levels. However, the interviews **showed** that **also** managers responsible for investments at corporate level in many groups devote a lot of time to coordinating investments. If e.g. a Company has experience of a **similar** investment they try to see to that this experience is transferred to the investing Company.

4.3 **Head office measures of control**

Bower's (1970) most important **contribution** can be claimed to **have been** that he **showed** that corporate **executives** in **divisionalized** groups do not **decide** the **direction** of investments by choosing among investment requests, but through designing a **structural context** that will favour investment requests which **are** in line with the desired **strategic direction**. **Structural context** is thus defined as

the formal organization (with associated definitions of managers' jobs), the system of information and control used to measure performance of the business, and the systems used to measure and reward performance of managers. (Bower, 1972, p. 71)

Corporate managers do not **have** the time to acquaint themselves with all investment issues, and therefore, **structural context** offers a system of **decentralization** and control. The interviewees emphasized four different kinds of measures as important to their control of the **direction** of investment, namely

* Planning **processes**

- * Staffs, boards, **executive** meetings and travel
- * Profit **centre** performance measures
- * Requirements on investment requests and investment **projects**

None of the interviewees pointed out all measures as important. The emphasis placed on the measures differs from group to group.

5. Planning processes

All groups in which interviews were carried out had an annual budgetary control process and an investment budget, and all but the two most profitable and liquid groups considered themselves to have more good requests than they could finance. The ranking of these requests was mainly done at business and divisional levels (Istvan, 1961a; Bower, 1970; Petty, Scott and Bird, 1975; Oblak and Helm, 1980; Mukherjee, 1988), and in some of the groups by an investment committee at divisional level.

Thirteen of the nineteen groups and almost all multinational groups in the engineering industry only had a one-year investment budget at corporate level, the other a three or five year budget. The capital intensive forest and metal industries usually have a longer investment budget than the engineering groups. Studies of UK (Scapens and Sale, 1981; Scapens, Sale and Tikkas, 1982; Mills and Herbert, 1987; Pike and Wolfe, 19980;) and US (Istvan, 1961a; Hendricks, 1981; Scapens and Sale, 1981; Scapens, Sale and Tikkas, 1982; Klammer and Walker, 1984) groups have shown that 69-89% of the groups in these studies have had an investment budget extending over more than one or two years.

Three of the groups, and at least one in which no interviews were carried out, have during the last decade introduced an annual strategic process. The strategic process runs during the spring and precedes the budgetary control process which takes place during the autumn. Decisions on new products, markets and major investments are decided in the strategic process; other investments in the budgetary control process. All these four groups have large R & D expenses. The strategic process has been introduced to improve strategic control and coordination of resources. For a more detailed description of a strategic process see Vancil and Lorange (1975) and Lorange (1993).

The traditional bottom-up kind of resource allocation system described in this article has been criticized (Goold and Boyland, 1975; Hayes and Abernathy, 1980; Hayes and Gatvin, 1982; Pinches, 1982; Hayes, Wheelwright and Clark, 1988; Baldwin, 1991; Baldwin and Clark, 1992; Porter, 1992a; b) for focusing interest on individual investments and hard data, instead of soft data and the contribution of the investment to the strategy of the Company and group. The critics mean that the system with authorization levels, systems of classification and instructions for the evaluations and requests of individual investments will contribute to fragmentation. Referring to the more centralized German (Carr, Tomkins and Bayliss,

1991; Currie, 1993) and especially Japanese (Currie, 1991a; b; 1993; Jones, Currie and Dugdale, 1993) groups some writers **have** recommended increased **centralization** of investment **decisions** (Baldwin and Clark, 1992; Porter, 1992a; b), **e.g.** through the introduction of an annual strategic process or investment committee to improve horizontal and **vertical** communication, and the **focus** on strategic implications of the investment.

The introduction of an annual strategic process in research intensive groups is one way of solving this problem and to gain **better** strategic control. A less ambitious form of routine that works in the same direction has **been** adopted by six multinational mainly engineering groups. Larger investment **projects** usually **consist** of a number of independent steps, or can be structured that way. Therefore, these groups **have** issued **directions** stating that the requestor may not apply for grants for a **project** that **will** be consequently followed by new investments. First a request for the major **project** or investment programme must be **approved** by the right **level**. Then requests can be made for sub-investments within the programme when these investments **come** to the fore.

6. Staffs, boards, executive meetings and travel

A large number of interviewees **have** emphasized the **importance** of **influence** through board representation. Ali groups **have** many companies that are **controlled** by a board, or a business board, if the **company** is not legally an independent unit. Group managers are represented on the boards of the divisions and divisional managers on the boards of the companies. Through this system corporate **executives receive** information on which major investments and **changes** lower levels are considering before these plans result in a request for expenditure, and in that way an opportunity to influence the direction of investment. Board representation offers yet another system for assessing and deciding **strategies** and strategic investments before the plans agreed on **generate** requests for **capital** expenditure.

Staff units can be **seen** as agents for **executive** managers, and are of **course** an important means of information and control. However corporate staff **units have been** reduced **during** the last **decades** to the extent that many groups today only **have** **juridical**, accountant and finance functions left at corporate **level**. **Technical** staffs **have been** decentralized to lower levels, **turned** into staff companies or simply abolished. A staff Company is a group **company** and profit centre **selling** its services to other group companies, and **also** often on the open market.

Several of the interviewees, especially in the service and multinational engineering **industries**, **have** emphasized the **importance** of **executive** meetings. Many groups relatively regularly gather **executives** and representatives of group companies at seminars, over **e.g.** a weekend. These meetings are not primarily intended to **direct** investments but it happens that the investment policy and investment issues are **discussed**. **Such** executive meetings and other

forums for **face-to-face** communication can constitute an important means of **creating a common** way of thinking on investment issues.

Some of the interviewees saw travelling-around-management as an important means to disseminate group **executive** thinking and to coordinate investments. In some of these groups only corporate **executives travel**, in others, also staff representatives.

7. Profit centre performance measures

Return on investment (ROI) and other performance **measures** are most **often** perhaps viewed as an ex post criteria; if the unit makes the wrong investments then this **will** sooner or later be **seen** in its ROI. However, it can **also** be **seen** as an ex ante criteria.

As ROI is estimated on accounting **measures** of capital, the return can be increased by **reducing** capital invested. Thus, it might for instance seem more profitable to **choose** reinvestments, rather than expansion investments. UK and US (e.g. Dearden, 1962; 1969; Hayes and Abemathy, 1980) **industry have been** criticized for demanding an over-high ROI and in **that** way to favour short-term investments to compensate for short-term ROI reduction. The managers interviewed seem well aware of this risk and some of them **have** said that they sometimes **have** to keep the volume of reinvestments down.

In many multinationals the requirements vary quite a lot for operations in different countries, and **markets**. In general corporate managers estimate and make proposals on requirements. However, most interviewees **have also** pointed out that the performance measures used are **target rates fixed** in a process of negotiation and that the rate agreed on is primarily **seen** as a commitment from the unit in question.

8. The investment manual

8.1. Which groups have an investment manual?

Most groups with **substantial** fixed investments that **have** decentralized the evaluation of capital investments **have** a capital budgeting manual. That means that shipping groups and other groups where all evaluations of investments are carried out by top management and their staff normally lack a manual, and that **certain smaller** groups and groups where intangible investments dominate might **also** lack a manual.

Five out of the thirty-nine groups **have** abolished the group manual **since** the last study by Tell (1978) and decentralized to business areas and divisions to develop their own capital budgeting routines and manual. Moreover, some of the larger groups **have** given lower levels the freedom to develop supplementary routines to the group manual. The group manual has in these groups become a framework for manuals at lower levels and is therefore written in more general terms. Consequently, major groups might **have** different capital budgeting routines in different parts of the group, i.e. a diverse business structure (Goold and Campbell, 1987).

8.2. Investments evaluated according to a manual

Especially the multinational engineering groups have introduced instructions stating that certain expense kinds of investments, e.g. R & D, market investments, in-house training, shall be treated and evaluated as fixed investments as far as possible (see Table 3). A few groups have taken a further step and developed a manual for R & D, and those groups that have decentralized the evaluation of acquisitions have sometimes also developed a manual for this purpose.

Table 3. Investments evaluated according to a manual

Machinery, land and real estate	29
Certain expense kinds of investments	14
Leasing	17
Acquisition	2

Note: The table draws on 29 manuals.

8.3. The purpose of the manual

When manuals were introduced in the late 50s and during the 60s the purpose according to Renck (1966) was to create unitary requests that could more easily be compared and possibly also ranked. Today, this purpose is pointed out in thirteen of those manuals that state a purpose. Eleven manuals states that the manual helps improve strategic planning and control, six financial planning and three creating a unitary language within the group when it comes to investment issues. The last purpose mentioned was in the interviews emphasized by managers in the groups that have grown by international acquisitions and in that way has been forced to integrate new Company cultures and create a common language in investment issues.

8.4. The content of the manual

In major groups the manual is an integrated part of the group's financial and accounting manual. The number of pages of the manual varies between 3 and 64, with a median of 18 pages.

The manual contains a description of the formal decision process, who is responsible for what, one or several kinds of forms and information on how these forms should be filled in. Educational material disappeared to a large extent already in the 70s (Tell, 1978), and today the user is often supposed to know how to calculate the payback and discount a cash flow. Nowadays, many groups update the manual annually in connection with the annual budgetary control process, previously only sporadically.

At least nine groups have supplemented their manual and forms with a free form that specifies how a request for a major investment should be presented to the board. The free form (see Istvan, 1961a) gives the calculator more freedom to adjust the techniques to the object. The boundaries between this free form and a real manual are floating.

Some groups, especially in the engineering industry, have special forms and procedures for reinvestments, R & D, acquisitions, buy or make decisions, leasing, and land and real estate.

8.5. *Limits of authorization*

Major requests need authorization from a higher level. At least 83% of the groups have such formal authorization limits, which is in line with studies of UK (Mills and Herbert, 1987; Scapens, Sale and Tikkas, 1982) and US (Istvan, 1961a; Scapens, Sale and Tikkas, 1982) groups which show figures of 77-89%. In addition, a large number of Swedish and US (Jemison and Sitkins, 1986; Mukherjee, 1988) groups have directions stipulating that all acquisitions need group board approval; in some groups also all investments that might alter a strategy previously approved.

Differentiated limits are found in the multinational engineering groups. Limits for communication equipment, computer hard and software, and certain kinds of industry specific investments, might be lower, something that earlier has been claimed not to exist in most Anglo-Saxon groups (Mills and Herberts, 1987; Sale and Scapens, 1982; Scapens, Sale and Tikkas, 1982). Furthermore, many groups have rules stating that a certain staff unit shall be contacted concerning financing, leasing, and when preparing requests for real estate, computer, or certain kinds of machine investments.

The limit for when a request for expenditures needs group level support varies between 5 and 50 MSEK in the multinationals. When Gandemo (1983) ten years earlier surveyed sixteen major groups authorization limits for the divisional level were at 0,5 MSEK and for group level at 3 MSEK. Today, these figures have been increased to 5 respectively 16 MSEK. Even if the figures partly relate to different groups there is no doubt that limits have been increased considerably in many groups during the 80s. Later interviews have shown that this wave of decentralization has totally ceased during the last few years of recession. In fact some of the groups had tightened up their pre-review procedures.

9. The investment request and ex-post review

9.1. *The determination of cash flow*

Theory states that cash flow estimate should reflect payments, but due to accounting practice cost and revenues are used instead. In the early 60s (Renck, 1966) an investment was defined in accounting terms, today all groups also include some types of expenditures connected with the implementation of the investment in the investment amount.

Working capital was considered in twenty-two of the twenty-nine manuals. Twelve of these manuals treat working capital as an investment with a **salvage** value, eight regard it as a yearly payment and two as a rent.

Twenty-three manuals use the **concept** of economic life, but most of these groups determine this parameter through practice and guidelines for depreciation. A **smaller** number of manuals use a period of calculation and only ten manuals **mention** the **salvage** value of the investment.

When it comes to the very important issue of the determination of **cash** flow, many manuals **have** become phrased in more general terms **during** the last **decades**. One reason seem to be that the group manual in some groups today is intended to constitute a framework for more **specific** manuals and capital budgeting **procedures** developed and **decided** on by lower levels.

9.2. **Profitability criteria**

All major groups use the **payback** (PB) criterion for **smaller** investments and the discounted cash flow (DCF) technique for major investments, often supplemented by the **payback** criterion. Early adoptors of the DCF technique in the US (Canada and Miller, 1985) and Sweden **have preferred** the internal rate of return (IRR), late adoptors the NPV. However, Table 4 ought to over-estimate the **importance** of the NPV and profitability index, as a few groups use these measures to interpolate the **IRR**. The accounting rate of return (ARR), a ratio between **payments** and expenditures, which has **been** very popular among UK (e.g. Pike and Wolfe, 1988), US (e.g. Klammer and **Walker**, 1984) and also Finnish (Honko and Virtanen, 1975) companies **have only seen** sporadic use in investment requests in Swedish industry. **Note**, also that the figures presented in Table 4 **cannot be compared** with those obtained from postal questionnaires of UK (e.g. Mukherjee, 1987; Pike and Wolfe, 1988), US (e.g. Cooper, Comick and Redmon, 1992; **Remer**, Stokdyk and Van Driel, 1993) and other (e.g. Honko and Virtanen, 1975; Kim, **Crick** and Farragher, 1984; Blazouske, **Carlin** and Kim, 1988; Patterson, 1989; Freeman and Hobbes, 1991) groups as the table only deals with groups using a capital budgeting manual.

Twenty-four of the twenty-nine manuals classify investments into on average eight classes per manual. The most evident **distinction** is that between reinvestments and expansion investments (**Istvan**, 1961a; Cannon, 1966; Piper, 1980; Klammer and Walker, 1984). Most groups **also** use different criteria for different kinds of investments. Some use the PB period for reinvestments and DCF for expansion investments above a **certain** expenditure limit. Annuity and MAPI are used for **reinvestments**. The number of criteria per group has increased and is today 2.6.

Surveys of small businesses (Runyon, 1983) and medium **sized** businesses (**McIntyre** and Coulthurst, 1986) **have shown** that about 50% of the **units** surveyed use a DCF technique.

The figure might not be **much** higher for businesses in major groups. For instance, two multinational groups do not require anything **else** but payback for investments **approved** on business or divisional levels.

Table 4. Profitability criteria

	1964	1977	1990
Payback	79	87	100
Simple payback	46	60	79
Discounted payback	32	27	33
Discounted cash flow technique	62	93	90
Internal rate of return	54	53	45
Net present value	11	33	52
Profitability index	14	20	21
Annuity	25	10	14
Annuity index	7	10	7
MAPI	11	10	3
ARR	4	3	0

Note: The table is based on Renck (1966), Tell (1978) and the forms and manuals of twenty-nine groups. Since 1990 one more group has introduced the NPV criterion for major investments.

Major investment decisions are preceded by many design decisions implying a trade-off between investment expenditures and **future payments** (Dixon and Duffey, 1990; Segelod, 1992). However, only two manuals state that design options that shorten the payback period at the expense of the profitability of the investment must not be chosen.

9.3. The determination of hurdle rate

Fifteen of the manuals support information on how the trade-off or discount rate should be determined. **Seven** of these multinational groups use a rate differentiated with regard to country (Hendricks, 1981; Mills and Herbert, 1987), and eight a common group rate. The

group rate is determined as a weighted average **cost of capital based** on accounting data. Those with a differentiated **rate** use a rate **based** on the **cost** of loans in local currency adjusted with a risk premium of about 3%. Two of them incorporate a measure of the **cost** of equity by adjusting the **cost** of borrowing for the debt equity ratio of the Company.

The interviews revealed that a further four multinational groups **have** abolished the group rate, but without issuing **any** instructions on how lower levels are to fix the cut-off rate; i.e. they **have also** decentralized the determination of hurdle rate.

The hurdle rate varies heavily between 10-30% both in Swedish and US (**Gitman** and **Mercurio**, 1982; **Mukherjee**, 1988) **industry**, and is lower in groups that base the rate on the **cost** of borrowing.

The required payback period is formally between 1½ to 3 years, but a **longer** payback period is often **accepted** for **strategically** important investments; up to 7 to 8 years for major **strategic** investments has **been** mentioned in several groups. **Factors** influencing the payback period **have been** economic life, country and strategy.

9.4. *Taxes and inflation*

The appraisal must be carried **out** in current monetary value if it is to be possible to evaluate the **effects** of taxes, different **financing** options, or to follow up **the** investment. However, the practice that has developed seems to be to appraise the investment without considering **taxes** or inflation, so **also** in the US (**Mukherjee**, 1988). If **such** an appraisal is considered necessary then this evaluation is made later on, possibly in **cooperation** with a staff unit.

The decreasing use (**Renck**, 1966; **Tell**, 1978) of DCF evaluations adjusted for taxes is apparent and seems to be related to the growing **decentralization** of the evaluation of investments. **Decentralization** brings with it a **demand** for simple routines and a need to control the assumptions made by lower levels.

9.5. *Expost control of investments*

The thirteen manuals that contained instructions for post-implementation review all **stated** that all investments should be reviewed ex post, in some groups all investments above a **certain** limit. Moreover, the interviews in nineteen larger groups **also showed** that the responsibility for review was decentralized to the unit responsible for **the** investment in all these groups, and that the result of **the** review was supposed to be delivered to the same level that had previously **approved** the investment. Earlier UK (**Scapens** and **Sale**, 1981; **Mills** and **Herbert**, 1987) and US (**Scapens** and **Sale**, 1981) studies **have** shown that the responsibility for review in about 50% of the groups were with the head **office**.

It is difficult to know to what extent investments are **reviewed** after implementation because of the growing **decentralization**, but some respondents admitted that they did not receive post **audit** reports for all investments. However, one can assume that investment

expenditures are monitored as all nineteen groups followed **up** their investment budget 3 to 12 times a year. In **fact** several **groups have during** the recession gone over to monthly reviews.

Corporate staff do not **have the** resottnes to review ordinary investments. The only kinds of investment that were followed up by corporate staff were acquisitions and investments that corporate **executives** and the board felt uncertain about, **e.g.** investments in a new market or technology.

10. Summary and conchsions

The resource allocation system of Swedish groups resembles those found in Arrglo-Saxon groups. Proposals for new investments and in many **cases also** new strategies **come from** below and are **ranked** at business and division levels. Authorization limits are used to refer the investment **decision** to the right **level**, capital budgeting manuals i.e. to create unitary principles for assessment, systems of classification, repeated pre-review by staff units, etc.

Compared to UK and US groups, the corporate level in major Swedish groups more often only has a one year investment budget and has decentralized the post implementation review. This indicates a more far-reaching **decentralization**. However, as the study **also** shows that there are industry **differences**, it **cannot** be ruled out that these **differences** between UK, US and Swedish groups can be partly explained by the **composition** of the industries in these countries.

However that may be resource allocation **decisions** are more centralized in R & D intensive groups, and in groups in large need of coordinating investment in various parts of the groups. **Thus**, four of the more R & D intensive groups had an annual **strategic** process in which **decisions** on major investments were made. As major **strategic decisions** are **dealt** with by **face-to-face** contacts the **role of the** ammal **budgetary** process and capital budgeting manual **have decreased**.

The most **complex** resource allocation system is to be found in the multinational engineering groups. The reason seems to be that they not only **have** investments in **machinery**, but equally large investments in markets and R & D (**Statistics Sweden, 1994**), and therefore a **large** need of coordinating these dissimilar kinds of investments. **Many** of these groups **have also** introduced the rule that companies must make a request and **have** an investments programme or major investment approved, before they can request and **have** investments within the programme approved; **Strategic decisions** are to be made before **decisions** on individual investments. Board representation offers another system to **solve** this problem.

Turning to investment evaluation techniques it can be **noted** that all major Swedish groups today use a DCF technique for some of their investments. Early adoptors of DCF techniques seem to **have** preferred the IRR and late adoptors the NPV. Furthermore, the ARR which has **been** and still is a **common** criterion in **Anglo-Saxon** groups has not **seen** more than sporadic use in Swedish groups.

Swedish groups introduced capital budgeting manuals in the late 1950s and **during** the 1960s (Scapens, Sale and Tias, 1982). The purpose was to create unitary principles according to which investment requests could be **compared** and possibly **also** ranked (Scapens, Sale and Tikkas, 1982). The manual has **come** to play an important **role** as an instrument of standardization, most of all in the groups that **have** grown through international acquisitions and by that **have** had to integrate different Company cultures. Written routines help create a **common** group language for investment issues.

Many researchers **have** recommended completely new investment criteria and resource allocation **procedures**. One should, however, observe that existing routines constitute a considerable inertia. Major groups seldom develop completely new routines. Instead, existing routines are modified and developed, more and more **often** in connection with the preparations for **the annual budgetary** control process. Furthermore, the routines must be easily understood by all and multinationals can therefore not introduce routines that deviate too **much** from an evolving international practice.

The study has shown that more and more groups **have** abandoned the group manual and allowed business areas and divisions to develop their own resource allocation routines. The growing occurrence of diverse business structures makes it more difficult to research how investment requests are processed in different parts of major groups. Investigations at both corporate, divisional and business levels are needed. More research is **also** needed on how **decisions** on resource allocation in different parts of major multinational groups are **coordinated**, and to what extent **industry specific** preconditions can explain observed **differences** in the resource allocation system of groups.

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