

# **Contribution of Design Thinking to Leadership Outcome – Quantitative Research Approach**

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## **Abstract**

This research work aims to identify how close Lebanese companies are from adopting a human centered management approach within their business organizations and how leadership is practiced. It mainly concerns the Lebanese family owned small and medium enterprises “SMEs” in Beirut and Mont-Lebanon where the highest concentration of registered companies is. The “Design thinking” approach has been taken as reference and its main steps have been utilized to conceptualize the problem statement of this research in the aim to answer the main question which is “*can design thinking approach contribute to a better leadership*”. A hypothetic-deductive quantitative research method has been adopted to collect and interpret the data. Results showed that senior highly educated people were more proactive and showed high participation rate of 61.6% and 64.8% respectively especially those who are in the middle management of the company’s structure. It has also been noticed that Lebanese SMEs’ frequently brain storm and discuss with employees about the company’s problems however, they are less likely to coordinate with employees about their own wellbeing or contribution to the management strategies of the company. Moreover, the noticeable high degree of job satisfaction raised the question mark about the reason behind despite the quasi absence of internal procedures.

**Keywords:** Family business; Human centered management; Fairness; HR; SME; Lebanon; Creativity; Employees well-being.

## **1. Introduction**

The performance of a company depends directly on the level of proficiency and collaboration between every employee and department head. While, the responsibility of maintaining and fortifying these two factors relies on Human resources “HR” department and the company leader [1].

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HR is important in all business but it is even more important in family-owned businesses for the reasons here after [2].

- i. Family-owned firms usually treat all employees as family; thus, putting more pressure and attention to handle HR issues with care and respect.
- ii. The emotional environment of the firm is complicated due to the family dynamics.
- iii. Family's public relations and reputation are at stake.
- iv. The life style and wealth of the family is often tied up in the business they run so they need to maximize the value of the firm.

A family business as defined by D. Ransburg, W. Sage-Hayward and A. Schuman [2], is any business in which the family is effectively controlling the strategic direction of the business, and which the business contributes significantly to the family's sources of income or social class. They further suggest that the family owns and controls the business intends to pass the business to future generations.

While the latter see that HR can contribute to construct on a conscious culture of success based on the owners' family values and vision.

Reference [3] found that there are numerous emotional and psychological obstacles faced by family members for example, parents are reluctant to hand over power to their children and sometimes they are jealous.

The above shows the difficulties HR department and employees at all levels are facing especially when the decisions of various family members in the same company and some times in the same department contradict.

Family business literature found that it is extremely hard to split between personal interests and business interests, therefore private and business goals cannot be separated [4], Also family business relies too much on strong relationships with people in power to assure the business continuity [5]. Which might reduce the access of senior managers and other employees to detailed information and might disregard the contribution, the participation and wellbeing of employees while taking decisions.

Family-owned firms prefers conservative management with minimum risk on the family fortune [6]. To achieve this aim, they prefer to adopt centralized decision-making process and authorities, with informal management over formal appraisal system [7].

The above was confirmed by the research made by Beyrouti [8] when he found that family-owned businesses are reluctant to adopt corporate management structure because owners are not in favor of delegating or handing over part of the administration of the organization to non-family members employed managers.

Reference [9] found that the conflict between family business owners and senior non-family members' managers is unavoidable. That is why Lee [10] argues that family and non-family employees must be involved in the management process. A major problem could be that family members and non-family members aren't given equal opportunities to declare their worries with decisions made.

One of the proposed solutions to avoid conflicts between family business owners and top non-family members managers was identified by [11] it consists of emphasizing that managers are self-oriented rather than altruistic and that a reward plan should assure to balance top management incentives with owners' interests. Hence, whether the company has clear reward plan including salary and bonus scales or not could create also major leadership issue.

Reference [11] finding might work, as a solution for financial conflicts but it is limited to top non-family members and doesn't take into account all other subjects related to employees' life balance, self-esteem, self-satisfaction, family integration, relationship with other non-senior non family members employees.

Reference [12:82] state that family firms are recognized for "*deep investment in employee training, employee interactive programs, minimum layoff policies, thorough staff selection, good benefits, and minimum turnover statistics.*" Although evidence about compensation is mixed, multiple studies suggest that family businesses offer higher job security

Over the twenty years, two theories about the impact of family on firm management have emerged. The first, originated from agency theory, is based on the premise that players are self-interested and that the risk assessment of employees and owners diverge, with employees being less risk takers than owners [13]. The difference of interests between owners and their employees, along with expensive information, makes it hard for owners to employ motivated employees and makes their supervision indispensable. While owner-management optimizes the costs of monitoring and incentivizing followers, family involvement provides additional incentive to use the inside information available to the family to opportunistically take advantage over nonfamily employees and deprive minority owners of the right to vote [14].

Examples of owner opportunism include building decisions on personal preference rather than to professional (business) judgment [15], using firm resources to prioritize the family's personal fortune [16], securing benefits and employment for family members [16], and the selection of governance structures that guarantee the family's continued control of the firm [17]. The result is a series of agency hazards that threaten employee welfare in particular and firm performance in general.

The second theoretical approach describes family managers as stewards who act in trustworthy, pro-organizational ways and collectivistic and are on personal level motivated to care about the value of the enterprise [18]. The proponents argue that there is a clear alignment between the behavioral premises advanced in stewardship theory and the humanistic values and behaviors espoused in family enterprises. This is because family managers strongly identify with their firm, are interested and motivated to assure its survival on the long-run, and tend to be deeply embedded in its socioeconomic context.

Reference [18,19] suggest these attributes nurture a stewardship environment that motivates family members to care about their followers, and encourage high levels of trust, commitment and loyalty among employees. In sum, the stewardship perspective describes family firms as fertile grounds for beneficial work practices [20].

While received theory suggests that stewards are concerned with the good financial standing of the company

because most “*stakeholder groups have interests that are well-maintained by increasing organizational welfare*” [18: 25], unlike the mechanisms that engender stewardship as well as the relationship between the financial and organizational dimensions of the construct.

Reference [18,21,22] argue that organizational stewardship originates in family identification with the firm and that a sense of blood relationship obligation motivates family members to care about their subordinates, as well as the firm’s well-being and continuity.

The resulting relationship-centered conducts foster an environment of commitment to the firm around which the family can build a long-lasting relationship with its employees, empower a sense of responsibility among employees to one another and to the business as a whole.

Reference [23,24,25] identify other antecedents, and suggest that shared leadership, continuous investment in employees’ training and development, promotion of a future vision, and psychological ownership of an affective commitment to the company also nurture the emergence and institutionalization of stewardship.

The conflict of interest and perceptions between family business owners and employees/ managers “agents” justify the need to apply and test a new leadership and HR problem solving approach such as Design Thinking. This can argue the ability of companies to correct unfair decision.

From the above we can clearly deduce that in Lebanon there are serious leadership issues. It might be interesting to understand how leadership in Lebanon could be improved by the application of a problem-solving approach called Design Thinking “DT” officially launched and adopted at Stanford University.

Herbert Simon, a researcher in cognitive science and Nobel Prize winner in 1978, first initiated the concept in his book titled “The science of the artificial” in 1969 under the name “A way of thinking”. Only in 1987, the term “Design Thinking” emerged by Peter Rowe in his book titled “Design Thinking” by MIT press, at the same time Donald Norman formalized the concept “User-centered Design” that constituted one of the pillars of Design thinking.

Another important milestone in the emergence of Design thinking was the conference of Tim Brown delivered at Stanford university in 2007 entitled “strategy by Design: how design thinking builds opportunities” and from another side his book entitled “Change by Design” published in 2009 [26].

The application of this approach is sensitive and related to how receptive and cooperative companies are to the application of DT within the leadership role of their leader.

From the above literature, it can be clearly noticed that, due to the difference in attributes and background between employees and owners in family businesses and the divergence between their objectives and interests, there is need to call for a problem-solving approach that contribute to implement a combination of clarity, equality and equity in the management system which are the main tools of fairness.

Since no matter what business field is concerned, whether education, manufacturing or programming, the success of the business will always depend and will be affected by the performance of the human resources involved including leadership. Based on this fact this study will try to find the relationship between Design thinking and better human resources performance, starting with the initial question can be “*can Design thinking approach contribute to a better leadership?*”

Based on a comprehensive literature review and a thorough understanding of the design thinking theory, research hypotheses were constructed relating the variables from the design thinking steps and leadership outcomes and the data collection was conducted through surveying a representative population.

## 2. Materials and methods

According to a study financed by the UKaid, International Rescue committee and Building markets [27] it was found that there are 225,000 Micro, small and medium enterprises in Lebanon, 2/3 are in Beirut and Mont Lebanon the reason why this research will focus on these two regions. In another study made by the ministry of economy and trade, Matta [28] found that 20% among these 225,000 enterprises are small enterprises and only 3.5% are medium enterprises

The data was collected through an online questionnaire via “Google form” amidst the difficulties to displace and meet the participants face to face due to the Pandemic and the country political crisis. A link to access the questionnaire was sent by email or WhatsApp. Upon receiving the link, the participant had to click on it to access to the online questionnaire form. Hundreds of potential employees working for Lebanese SMEs have been approached through various communication means, due to the limited time, it has been decided to limit the population to 250 participants.

The main tool of the survey was the questionnaire which consists of six sets of statements, the goal of each set is to validate the hypothesis related to the corresponding design thinking step.

Through the questionnaire, SMEs have been tested to measure how many of the main steps of the DT approach are already applicable and how efficient and reflected they are on the HR and the overall results of the company's short and long-term plans. Several statements have been embedded into the questionnaire served to evaluate the climate in which this approach is being studied since each approach needs adequate climate to be enabled.

The online survey allowed the collection of feedbacks from 250 employees from various Lebanese SMEs from various levels from top management to middle management and front liners, including a wide range of age and educational levels from both genders. SPSS statistical tests have been conducted such as the correlation between the variables, collinearity and significance. Moreover, the answers have been analyzed, cross checked and the results are summarized in this article.

The survey consisted of seven separate parts including one demographic data related to the surveyed population as well as six other parts related to the six steps of the design thinking approach “Empathy”, “definition”,

“Ideation”, “prototyping”, “testing” and “scaling” and each contained a set of statements for the participants to grade on a scale made of five grading levels.

Several ways to conduct quantitative research have been studied and assessed. Taking into consideration the nature of the collected data, in this study where descriptive and causal comparative research methods are adopted; developmental design, correlational, observational studies and survey research were used.

The processing of data consisted of three main parts from narrative data analysis to cross tabulation to statistical analysis. The ultimate goal remains always the validation of the proposed hypotheses H1 through H6 to quantify the relationship between depend variables and independent variables represented in the following schematic



**Figure 1**

### 3. Results

The three main parts of the data collection has yielded the following three main categories of results that combined will help optimizing the overall results of the research.

### 4. Statistical analysis

The results of the correlation analysis between the averaged output dependent variable and the six averaged independent variables are shown in **Error! Reference source not found.** here after:

**Table 1:** Correlation analysis results

Correlations						
Variable		Statistic				
		Correlation	Count	Lower C.I.	Upper C.I.	Notes
Leadership outcome	In_1Empathy	0.689	250	0.617	0.749	
	In_2Definition	0.681	250	0.609	0.743	
	In_3Ideation	0.816	250	0.770	0.854	
	In_4Prototyping	0.733	250	0.670	0.786	
	In_5Testing	0.044	250	-0.081	0.167	
	In_6Scaling	0.776	250	0.722	0.821	

According to the document: ‘Pearson’s Correlation’, the following results have been recorded:

- Very strong positive correlation between the independent variable: Ideation and the dependent variable Leadership outcome has been identified.
- We have strong positive correlation between the independent variables: Empathy, Definition, Prototyping, & Scaling and the dependent variable Leadership outcome
- We have a very weak or no correlation between the independent variable: testing and the dependent variable: Leadership outcome with a coefficient of 0.044.

Collinearity analysis results has yielded values of VIF between 1 and 5 which is interpreted as moderate collinearity. This indicates that there is no need to investigate other coefficients in the collinearity diagnostics table or to have to deal with any collinearity problems whether on structural or data levels.

Since there is strong correlation with all independent variables except for Testing, the regression coefficients for the multivariate regression model was based on these five variables as shown in **Error! Reference source not found.** below:

**Table 2:** Multivariate Regression Coefficients Based on Five Variables

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.875	0.766	0.762	0.380842727559035	0.766	160.040	5	244	0.000
a. Predictors: (Constant), In_6 Scaling, In_1 Empathy, In_2 Definition, In_4 Prototyping, In_3 Ideation									

Regression analysis has yielded r square value of 0.667 based on one variable as predictor and 0.766 based on fixe variable, negligible difference has been noticed when applied to 6 variables due to the insignificance to the independent variable “testing”.

### Narrative analysis

Quantitative research, statistical results show that when the work environment is not suitable for the application of design thinking this approach is not practiced even partially. It was also noticed that the majority of Lebanese SMEs have written values 55.6% with no internal committees 39.6% which might mean that employees' opinions are collected for brain storming reasons not mandatory for the company to consider. 52% of the employees perceive their manager as leader however 58% of them thinks he fits well his position.

It is also clear that Lebanese SMEs don't test the changes before implementing them. Despite the high frequency in changing the management strategies, 52% employees trust their manager.

## Cross tabulation

This part studies the relationship between each of the four group variables age range, educational level, position and size of the company with the averaged grades collected related to each set of the six sets of statements corresponding to the six hypotheses. **Error! Reference source not found.** is a sample of the 24 tables generated from the cross-tabulation analysis.

**Table 3:** cross table representing various age group and their respond toward H1 related set of questions

Age range vs H1	Strongly Disagree										Disagree										Neutral No Opinion										agree										Strongly Agree									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Average	%	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Average	%	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Average	%	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Average	%														
21-25	3	3	0	1	2	5	214	7.73%		0	4	2	0	7	2	8	3.25	7.89%	14	8	8	7	9	4	7	8.14	15.53%	4	7	6	7	4	4	5.57	7.93%	4	3	9	10	3	11	7	5.88	10.30%						
26-30	6	3	2	0	10	2	14	5.28	18.07%	0	8	5	1	11	1	11	6.14	14.38%	8	12	6	2	10	10	4	7.43	14.17%	14	11	17	16	6	13	5	11.71	16.67%	8	8	12	23	5	16	8	11.43	20.10%					
31-35	4	6	1	3	5	3	11	4.71	17.01%	11	7	8	4	19	7	19	10.71	25.08%	11	16	13	4	21	6	9	11.43	21.80%	20	18	21	26	6	17	9	16.71	23.78%	9	8	12	18	4	22	7	11.43	20.10%					
36-40	6	6	3	1	9	2	11	5.43	19.59%	10	8	5	4	15	5	19	9.43	22.07%	10	11	7	0	13	7	5	7.57	14.44%	11	15	19	16	6	13	8	12.57	17.89%	7	4	10	23	1	17	1	9.00	15.83%					
41-45	7	6	4	1	5	1	15	5.57	20.10%	6	5	4	0	14	2	14	6.43	15.05%	12	15	13	3	17	7	8	10.71	20.44%	14	14	16	22	6	18	8	14.29	20.33%	7	6	7	20	4	18	1	9.00	15.83%					
more than 45	6	2	3	2	4	3	12	4.57	16.49%	6	6	2	2	15	3	13	6.71	15.72%	11	13	6	3	9	3	5	7.14	13.62%	9	11	16	12	6	7	5	9.43	13.41%	6	8	11	19	4	22	3	10.14	17.84%					
Total	32	26	13	8	35	12	68	27.71	100.00%	39	38	26	11	81	20	84	42.71	100.00%	66	75	53	19	79	37	36	52.43	100.00%	72	76	97	99	34	75	38	70.29	100.00%	41	35	61	113	21	106	21	56.86	100.00%					

The results showed that five of six hypotheses are valid except hypotheses five related to testing. However, it has also been noticed that the most active population belong to the range of age between 31-35, and young participants of age range between 21 and 25 along with senior participants about 45 years old are rarely the most disagreeing population. Although those who disagree the most belong to the range of age between 31-35 or 36-40 years old. However, the results shows that those who strongly disagree don't change their opinion much with age.

## 5. Discussion

One of the top core tasks of design thinking is to learn how to identify problems and get to their root in any company. This research explored the root of leadership problems in Lebanese SMEs from various sides, starting from the overall business environment to the types of leadership practiced and employees' perception of their leaders. It pinpointed the profile of the population of employees who are active the most and how they perceive their company's leadership. It also proved what steps of design thinking are the most relevant to get into a better leadership outcome, taking into consideration the country's culture and relationships between leaders and followers. The results of this research intersect with the results of scholars works about talent management another human centered management approach. Literature reveals more about the importance of human centered management approaches and the value of the human capital and its contribution to the performance of the enterprise, reference is made to a study made by H. Hegase, and B. Hamdar [29] about the talent management application on the assessment of Lebanese employees' knowledge. The latter concluded that the right people performing the right jobs are so precious and need a proper management to guarantee and offer the best business achievements. Positive and strong culture focused on good performance must be offered and hence give the needed support to employees.

## 6. Conclusion

This research discovered the various types of leadership that exist in Lebanese family-owned SMEs as perceived by the employees from various levels and various sectors. It also proves that Leadership in this area of study is



not human centered and the top priorities are boosting the company results. Most importantly this research proved that the application of design thinking steps can improve the leadership outcome for a specific profile of employees those who seek life balance, fairness, clear carrier path, life-work balance and psychological wellbeing. The level of trust in the leaders is remarkably high driven by the personal relationship between the leaders and the followers despite the absence of clear internal procedures and policies.

However, the wide variety of profiles and business sector of the surveyed population influenced the accuracy of the results. The results can be improved either by surveyed a larger population or by restricting the population to people who share common factors such as similar business sectors, education level or position. In other terms higher results accuracy this research could be a beginning and a guide for several future case studies.

It is highly recommended to conduct further studies into specific business sectors since the effect of design thinking steps and other human centered management approaches were proven to be highly correlated with specific business sector who relies more on the creativity of human beings.

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