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A STUDY OF WILFUL DEFAULT COMPANIES IN INDIA USING ALTMAN Z-SCORE AND OHLSON'S O-SCORE BANKRUPTCY PREDICTION MODELS[#]

Nikita Rangoonwala*
Hitesh Bhatia**
S. Sundararajan***

INTRODUCTION

According to the World Bank's Doing Business Index, 2018, India ranks 108 out of 189 countries on Ease of Resolving Insolvencies; it takes nearly 4.3 years to resolve the issues of insolvency in India. India's insolvency recovery rate in terms of cents on dollars comes to 26.5 as per the report (World Bank, 2019). This simply means that on every dollar invested, the secured creditors can recover slightly over one-fourth of their investment through the judicial debt enforcement proceedings. Although the rate is gradually increasing and recovery has been faster than the data indicated in this report due to a strong and effective Insolvency and Bankruptcy Code (IBC) 2016. According to the same World Bank report on 'Ease of Doing Business', India jumped 23 positions to reach 77th rank in overall doing business index largely due to implementation of IBC among other reforms.

However, over the years, especially in the past decade, the weak insolvency resolution mechanism and

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significant inefficiencies in the credit appraisal system of the commercial banks resulted in a massive distress in credit market. According to another report of the World Bank, India ranks 31 among 123 countries in terms of non-performing assets (NPAs) as a percentage of total bank loans. The 2017 report indicates a 10% NPA for India's commercial banks which is far more than the average of 7.5%.

The Financial Stability Report of the Reserve Bank of India (RBI) over the recent years clearly indicates that major sectors such as infrastructure, iron and steel, mining, aviation and textiles had notably higher levels of stressed assets. Although the Indian banking system remained quite elastic, the asset quality of the public sector banks came under enormous pressure. According to the numbers that were reported by the commercial banks to the RBI, the gross NPA of public sector banks was at Rs. 56167.18 in the year 2014–2015. At the end of 2017–2018, this number increased to Rs. 73203.40 billion. The NPA of the public sector banks reached a peak of Rs. 9,62,000 crores in March 2018; Punjab National Bank (PNB) has the highest number of bad loans in their advances followed by the State Bank of India (SBI), Oriental Bank of Commerce, Canara Bank and Bank of Baroda (Financial Stability Report, RBI, 2018). Experts of the banking sector claim that the PSU banks went overboard in lending due to overoptimism and high economic growth in the early years of the third millennium. Although the NPAs of the private banks were also very high in 2007–2008 to 2010–2011, thereafter the growth in NPAs was controlled due to rational lending. The total amount of the NPA had increased from Rs. 13602.53 billion in 2013–2014 to Rs. 25984.36 in 2017–2018. HDFC Bank, Axis Bank, ICICI Bank, Kotak Mahindra Bank and Yes Bank are the banks that accumulated a massive rise in bad loans. Among them, ICICI Bank topped the list of NPA in private banks with Rs. 54,063 crores in the bad loans (Financial Stability Report, RBI, 2018).

As far as the foreign sector banks are concerned, the NPA of the foreign banks in 2010–2011 was Rs. 1949.72 billion, which grew to Rs. 3264.30 billion in 2017–2018, which is very low in comparison to other sector banks. The foreign banks accounted for lowest NPA because of their high efficiency, cautious credit lendings and the flexibility to cut their losses by selling off their assets (Financial Stability Report, RBI, 2018).

An important aspect of the rising NPA issue during the past decade has been the fact that at least half of the NPAs are caused by wilful default. The wilful defaults are those entities that have the capacity to repay, but still default in the repayment of loans, divert funds from the original purpose of borrowing, engage in selling off the assets without the knowledge or approval of the banks and methodically abuse the legal and financial sector. The RBI circular

dated 1 July 2014 clearly stated that ‘Wilful Defaulter would be deemed to have occurred if the unit has defaulted in meeting its payment/repayment obligations to the lender even when it has the capacity to honour the said obligations’. Many times these defaulters have a premeditated intent not to pay off the loans despite having the capacity. As per the RBI regulations, wilful defaults cover broad areas including deliberately non-payment of dues despite having adequate assets and cash flows, misinterpretation of records and disposal of securities without the bank’s knowledge.

As per the reports in media, SBI, the country’s largest lender, accounted for nearly 27% of wilful defaults in 2016–2017. Nearly 1762 wilful defaulters owed over Rs. 25000 crores to SBI on 31 March 2017. This was followed by PNB with 1120 defaulters owning over 12000 crores. The total NPA in the PSU banks due to wilful defaults was nearly 92000 crores. This was an increase of 20% from 2015 to 2016 when the wilful defaults were over 76000 crores (PTI, 2018).

The volume of the NPA on this account is large and cannot be attributed only to external business environment. Therefore, it is imperative to discuss various aspects of wilful defaults and find whether there were ways and means to predict such defaults by the commercial banks while appraising their credit proposal.

Modern credit appraisal techniques use methodology that evaluates the probability of repayment using various bankruptcy prediction models, neural network and intelligent knowledge-based systems. Credit scoring is a popular technique which translates the risk factors in the form of scores. The credit scoring valuation techniques is a combination of conventional methods and advanced statistical techniques. The former includes weight of evidence, genetic algorithms, multiple linear regression, discriminant analysis, probit analysis and logistic regression. The latter comprises fuzzy algorithms, expert systems and neural networks (Abdou & Pointon, 2011; Hand & Hendly, 1997).

One of the most prominent models is the Altman’s Z-score conceived by Edward Altman in 1968 (Altman, 1968). The model is a widely accepted measure for predicting bankruptcy even today. There is a plethora of research done using the model and it has been easier to compute and provides reliable results. Another contemporary model is the Ohlson’s O-score, which has been recently accepted by a large number of professionals and many research studies have been conducted using this model.

The Altman’s Z-score is even used by the World Bank to identify vulnerability and distress prediction for various countries by calculating the probability of default of country’s banking

system. According to a report on the banking system Z-scores, published in Bankscope, TheGlobalEconomy.com in 2004, India was ranked 62 among 173 with a score of 14.98. In 2016, India's ranking slipped to 45 with a score of 18.17. The average score in 2016 was 14.38.

REVIEW OF LITERATURE

Charles Merwin in 1942 published a broad study with more than 900 companies in the United States titled 'financing small corporations' in *NBER*. He used Z-score prediction model and considered three ratios as important indicators of business failure. These ratios were the current ratio, net worth to total debt and net working capital to total assets to compare the discontinuing firms with those who were continuing and predicted the discontinuation of firms across five major sectors in the United States. He concluded that the discontinued firms show signs of weaknesses for at least 4–5 years before they actually fall (Merwin, 1942).

Later, Braddock Hickman found that the net profit to sales and the times-interest-earned ratios were the best predictors of default in his book titled 'Corporate Bond Quality and Investor Experience'. The study confirmed an inverse relationship between default rates and bond quality considering agency ratings, market ratings, earned ratios, ratio of net income to gross income and size of issue (Hickman, 1958). In 1966, Beaver came up with a single ratio known as the best performing ratio, cash flow/total debt best value. From 1968 to 1980, the period witnessed wide use of multivariate discriminant analysis. A study identified five sources (or dimensions) of variation within the 14-variable set, namely, profitability, activity, liquidity, asset balance and cash position. To represent these five dimensions, net income to total assets, current assets to sales, current assets to current liabilities, current assets to total assets and cash/total assets were selected, respectively, through use of the rotation factor matrix (Libby, 1975). Later, a version higher than the Z-score called ZETA was developed (Altman, Narayanan, & Haldeman, 1977). The details of the seven parameters are provided in the later section regarding models. However, the variables of the Zeta model are not disclosed as it is a proprietary asset.

To assess corporate failure or insolvency prediction, the most popular choice of the conditional probability-based tool is the logit model. The first ever published research within the field of corporate insolvency prediction using econometric methodology of the conditional logit analysis was propounded by Ohlson by creating the O-score (Ohlson, 1980). In further evolution, a research paper titled 'State of the art' evaluates a previous logit model

and compiles its lacunae; in addition, the concept of applied entropy with probabilities functions concluded an increase in information content as failure approaches over a 5-year period (Zavgren, 1983). The reasons for similarities in predictive abilities lie in both the logit and probit models which could be improved in terms of accuracy if they are adequately and correctly specified (Lennox, 1999).

Using a simple three-layered ($1 \times$ input, $1 \times$ hidden, $1 \times$ output) network with a back-propagation training algorithm, the accuracy of the network was compared with a discriminant analysis model with the use of Altman's Z-test method. 'Early warning system' with probability-based neural networks using Bayes' classification theory was then developed. (Yang, 2001). An innovative mixed logit methodology attempted to correctly classify the firms into three failure groups: non-failure, outright failure and insolvency. Where outright failure is defined as entering administration, receivership or liquidation, insolvency is defined as the failure to pay the listing fees, loan default, restructuring to meet debt payments and capital raising to finance continuing operations. The classification of the firms by their model boasted an impressive 99.16% accuracy (Jones & Hensher, 2008).

In recent years, the most popular forms of model are derived from the European call option (EC) and the down-and-out call barrier option. The shareholders of a firm are assumed to hold an EC, the exercise price being the amount required to discharge its debt liabilities. The time to maturity of the debt is therefore taken to be the option period, and the expiry date is taken as the point at which insolvency might occur. On expiry, the shareholders will be required to either discharge the debt repayment obligation if the assets of the firm exceed the liabilities or default on the debt and insolvency process if the assets of the firm are less than liabilities. The method assigns a default (failure) probability independently to each firm. The academic examples of the EC approach are found in Vassalou and Xing (2004), Heilgeist, Keating, Cram, and Kyle (2004) and Bharath and Shumway (2008).

All these techniques are well-researched and tested time to time in the West. It is found that discriminant analysis, linear regression, probit analysis and Poisson's distribution techniques resulted in 65.4%, 55.1%, 71.9% and 62.4% accuracy (Gullien & Artis, 1992). Later, the results of various studies surveyed relating to the comparison of accuracy of various credit scoring techniques from 1992 to 2005 were as follows: linear regression 67%–80% and average of 75%, logistic regression resulted in 75% average accuracy, decision tree analysis resulted in 76% average accuracy, neural net 76% and genetic programming at 82.8% (Abdou & Pointon, 2011; Crook, Edelman, & Thomas, 2007). As part of traditional

techniques, linear and logistic regression methods and advance tools like neural net and genetic programming were consistently accurate in prediction.

O-score is one of the widely used models for bankruptcy prediction; it not only considers financial performance but also the overall economic condition in the economy. It takes gross national product (GNP) as one of the variables of the model. The calculation for Ohlson's O-score is given below:

$$T = -1.32 - 0.407 \log(TA_t / GNP) + 6.03 TL_t / TA_t + 0.0757 CL_t / CA_t - 1.72X - 2.37 NI_t / TA_t - 1.83 FFO / TL_t + 0.285Y - 0.521 (NI_t - NI_{t-1}) / |NI_t| + |NI_{t-1}|$$

where

1. TA = total assets
2. GNP = gross national product price index level
3. TL = total liabilities
4. WC = working capital
5. CL = current liabilities
6. CA = current assets
7. X = 1 if $TL > TA$, 0 otherwise
8. NI = net income
9. FFO = funds from operations
10. Y = 1 if a net loss is for the last 2 years, 0 otherwise

Altman Z-score

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5$$

where

X_1 = working capital/total assets (WCTA) (%)

X_2 = retained earnings/total assets (RETA) (%)

X_3 = earnings before interest and tax/total assets (EBITTA) (%)

X_4 = market value of equity/book value of total liabilities (VETL) (%)

X_5 = sales/total assets (STA) (number of times)

Z = overall index or 'Z-score'

So far, the study on bank loan defaults using Z- and O-score has been limited in India when compared with many other countries like Thailand, Vietnam and the United States. In particular, there are hardly any cases of wilful default.

OBJECTIVE

The objective of this study was to use bankruptcy models, the Altman Z-score, and Ohlson O-score models to gauge their bankruptcy prediction reliability of the wilful default companies listed after the year 2000.

RESEARCH METHODOLOGY

The study is based on the existing models with the use of historical data; it is a descriptive study based on secondary source, where the population is defined as the wilful defaulters among the listed companies after the year 2000. The rationale to select the year 2000 as a cut-off year was based on the implementation of SEBI (Disclosure, Investors and Protection) Regulation, 2000. SEBI accepted the recommendations of Primary Market Advisory Committee (PMAC) with regard to the eligibility norms and pricing of IPSs among other reforms in primary market. More than 900 IPOs had arrived in the period thereafter upto 2017; out of which, 107 were declared as wilful defaulters. These 107 companies constitute the entire population of the study, and because the population is studied, no tests are required to validate.

Data Analysis

According to the Altman's Z-score, a number less than 1.81 indicates a very high chance of bankruptcy, a score between 1.81 and 2.99 implies moderate chance of bankruptcy and a score exceeding 3 indicates a very low chance of bankruptcy. A total of 75 companies scored less than 1.81 for at least 5 years, which means that the Z-score was alarming for at least 5 years consecutively. There were only seven companies in the safe zone for more than 5 years.

Table 1: Altman Results

	No. of Companies
<1.8	75
1.81-2.99	24
>3	6

Year-wise, there were 21 instances where the Ohlson’s model predicted bankruptcy but not the Altman’s model. A total of 77 companies were correctly predicted by the Altman’s model but not by the Ohlson’s model. For all the years, in all nine predictions, both the models were at par for all the years.

A total of 101 out of 107 companies were correctly predicted as plunging towards bankruptcy using the Z-score for at least 1 year of the entire period. However, six companies eluded the prediction.

Table 2: Altman’s Z-Score Classification of Prediction Results

	Bankruptcy	No Bankruptcy
Total companies	101	6*

*Type Error II (not predicted but went bankrupt)

Source: Computed from Ace Equity

Table 3: List of Companies Not Predicted by Altman’s Z-Score

1	Amar Remedies Ltd.
2	Ameya Laboratories Ltd.
3	Coral Hub Ltd.
4	Lumax Auto Technologies Ltd.
5	Midfield Industries Ltd.
6	Taksheel Solutions Ltd.

Source: Computed from Ace Equity

Table 4: Altman's Z-Score Year-Wise under Various Zones and Increase/Decrease in Cash Flow from Loan Funds of Number of Companies

Year	Altman's Z-Score					Inc./Dec. Cash Flow from Loan Fund of No. of Companies	
	Green >3	Amber 1.81–2.99	Red <1.8	Total	Amber + Red	Outflow	Inflow
2000	0	1	0	1	1	2	3
2001	1	3	15	19	18	3	6
2002	2	14	14	30	28	3	9
2003	4	10	28	42	38	9	13
2004	11	35	39	85	74	15	38
2005	12	31	53	96	84	19	31
2006	18	48	34	100	82	17	39
2007	13	55	34	102	89	11	45
2008	19	51	35	105	86	9	49
2009	4	44	56	104	100	16	51
2010	7	50	46	103	96	24	49
2011	5	24	75	104	99	19	37
2012	2	23	75	100	98	18	28
2013	0	7	86	93	93	19	22
2014	0	11	73	84	84	17	20
2015	1	3	76	80	79	18	14
2016	2	6	66	74	72	15	12
2017	2	1	53	56	54	14	7

Source: Computed from Ace Equity

The correlation between the number of companies having combined amber and red ratings and increase in loan funds is 0.76. This indicates that when the number of companies' creditworthiness was unsound, the banks were still sanctioning loans. From 2000 to 2009, the increase in the loan fund peaked at Rs. 8026.21 crores and then declined sharply. By the end of 2017, only 56 companies were left and the rest 51 ceased to exist.

The Ohlson's O-score is divided into two parts: probability more than and less than 50%. The probability less than 50% indicates that the chances of a company going bankrupt are very high and otherwise for more than 50%. The results from O-score are fairly near to the Z-score; 101 companies were predicted to go bankrupt at some point of time and only 5 companies were missed out. This shows excellent accuracy at around 95%.

Table 5: Ohlson's O-Score Classification of Prediction Results

	Bankruptcy	No Bankruptcy
Total companies	102	5*

*Type Error II (not predicted but went bankrupt)

Source: Computed from Ace Equity

Table 6: List of Companies Not Predicted by Ohlson's O-Score

1	Jaypee Infratech Ltd.
2	Plethico Pharmaceuticals Ltd.
3	Varun Industries Ltd.
4	Innoventive Industries Ltd.
5	Prithvi Information Solutions Ltd.

Source: Computed from Ace Equity

Interestingly, the lists of companies missed by either model are totally dissimilar. This indicates that if both the models are used, then the chances of missing out a company would decrease.

Table 7: O-Score from 2000 to 2017 and Increase/Decrease in Cash Flow from Loan Funds of Number of Companies

Ohlson's O-Score of No. of Companies				Inc./Dec. Cash Flow from Loan Funds of No. of Companies	
Year	<0.5	>0.5	Total	Outflow	Inflow
2000	6	7	13	2	3
2001	11	8	19	3	6
2002	19	11	30	3	9
2003	29	12	41	9	13
2004	69	16	85	15	38
2005	62	33	95	19	31
2006	37	61	98	17	39
2007	24	78	102	11	45
2008	18	85	103	9	49
2009	31	70	101	16	51
2010	25	76	101	24	49
2011	18	81	99	19	37
2012	22	68	90	18	28
2013	15	66	81	19	22
2014	17	61	78	17	20
2015	17	54	71	18	14
2016	14	43	57	15	12
2017	56	0	56	14	7

Source: Computed from Ace Equity

Furthermore, interesting facts have surfaced on understanding the pattern of increase and decrease in loan funds. The instances where loan funds increased indicate that there has been cash inflow through loans; additional or new loans have been provided by the banks. If loan fund increases amidst a weakening condition of the borrowers, then it would be alarming for the banks. The correlation between less than 0.5 score and increase in loan fund is 0.25. There were five companies whose bankruptcy could not be predicted using the model.

The data in Table 7 pertain to the sector-wise bifurcation of the increase in loan funds despite red and amber signals of the companies. In addition, the data in Table 8 are regarding the subsequent disbursements for 2–4 years in sequence, reinforcing the point about disbursements notwithstanding deteriorating creditworthiness which could have been discerned.

Table 8: Sector-Wise Data on Instances of Increase in Loan Funds and the Number of Times a High Probability of Bankruptcy Was Predictable According to Z-Score

Sector	High-Risk Bankruptcy Frequency of Companies														
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Agriculture				3		5									
Automobile and ancillaries			4			5									
Aviation									9						
Capital goods				6		10				10					
Chemicals							6								
Construction materials		1			4	5	6		8						
Consumer durables		1													
Crude oil	0														
Diamond and jewellery			2										12		
Electricals		1													
FMCG		1			4	5	6	7	8						
Healthcare					4	5	6		8						
Hospitality				3											
Inds. gases and fuels								7							
Infrastructure	0		2		12	5	6	14	8					13	14
Iron and steel								7		9					
IT	0	2		12		10			8	18		11			
Media and entertainment		1		3	4		6	7	8						
Mining					4										
Miscellaneous					4										
Non-ferrous metals		1		3					8						
Paper							6				10	11	12		
Plastic products				3						9					
Power							12								
Realty		1		3	4		12								
Ship building												11			
Telecom				3											
Textile		1		3	8	5	12	21	8	27		11	12		14
Trading		1					6			9					

Source: Computed from Ace Equity

Most instances of the disbursement were for textiles, infrastructure and IT sectors. Interestingly, studying the pattern of disbursements even after amber and red signals for two, three and four times provided an insight into the anomaly of loan disbursements. A total of 68 companies were disbursed loans even after strong bankruptcy signals; furthermore, 50 borrowers received disbursement of loan funds consecutively three times, while with 36 companies it was consecutively four times despite strong bankruptcy signals.

Table 9: Disbursement and Risk Anomaly at Various Consecutive Instances

Total Anomaly in Disbursement and Strong Bankruptcy Signals			
No. of Times a High Probability of Bankruptcy Was Predictable According to Z-Score	Two Consecutive Years of Loan Disbursement	Three Consecutive Years of Loan Disbursement	Four Consecutive Years of Loan Disbursement
0	0	0	0
1	0	0	0
2	0	0	0
3	5	0	0
4	7	3	0
5	7	5	4
6	11	8	5
7	9	8	6
8	8	5	5
9	9	9	5
10	2	2	2
11	4	4	4
12	3	3	2
13	1	1	1
14	2	2	2
Grand total	68	50	36

Source: Computed from Ace Equity

This reflects if prominent bankruptcy prediction models would have been used by the bankers, then further disbursement of loan could have been controlled. Out of 107, 36 companies were consecutively provided loan for 4 years. This could also indicate gross negligence or worse some kind of collusion with the bankers in a few cases.

CONCLUSION

This study in its modest format conforms the accuracy of bankruptcy prediction models; bankruptcy can be predicted with a high degree of reliability using Altman's Z-score and Ohlson's O-score models. However, only 11 companies, 6 by Altman's and 5 by Ohlson's scores, eluded the prediction during the period. Because the sets of companies are different, it indicates that if more than one model is used by the banks, then the chances of bankruptcy prediction increase. The accuracy of the Altman's and Ohlson's models was 94% and 95%, respectively; the accuracy rate is high and attests to their reliability.

The number of listed companies continuously increased from 2000; however, after 2011, the companies started to decline. Currently, only 56 out of 107 are in existence so far. There has been a strong positive correlation of 0.76 between the increases in loan fund and high to moderate chances of bankruptcy according to the Altman's model, while with O-score it is only positive 0.26. The continual funding by the banks is an indication of warning signals apparently taken lightly in many cases.

The continuous disbursement of loans after discernible high-risk signals by the banks is not desirable. This is an indication of lapse on the part of the banks; 36, 50 and 68 companies were provided with loans for four, three and two times for consecutive years even after weakening financial condition. This may be the case of collusion with bankers under such circumstances.

This research work provides a course to consider using prediction models in a more professional manner than to limit its usage for only academic purpose. In addition, the methodology adopted by the banks for monitoring the performance of the companies by using bankruptcy prediction models warrants a close look.

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Database

- ACE Equity Database
- Annual reports of sample companies

SENSEMAKING IN ORGANISATIONS: A STUDY OF NEWS CHANNELS IN GUJARAT[#]

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INTRODUCTION:

Regional news organisations have their place of significance in the Indian mediascape. Localisation of news is central in building an understanding about news organisations, particularly the regional broadcast channels. As Thussu (2007) highlights, 'It is instructive to note that among the top ten news networks – none are English language news channels' (Thussu, 2007, p. 98). However, studies that attempt to locate regional news media within the realm of Indian mediascape or studying its prominent characteristics are far and few, and in a few zones they are non-existent. This article is hence an attempt to address this gap in scholarship.

States like Tamil Nadu, Maharashtra, Karnataka, West Bengal, Kerala, Andhra Pradesh, Telangana, Punjab, New Delhi, Assam, Orissa and Chhattisgarh have news channels owned by politicians or political parties, or at least have explicit political stakeholdership. Gujarat is a tricky turf, with no explicit political stakeholdership; however, there is a certain degree of oscillation in the

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political affiliations endorsed. The research is located in the interdisciplinary realm taking into fold conceptualisations from sensemaking theorisation and sociology of news perspective.

The study is informed by the empirical findings done in the southern realm to serve as an entry point for exploration in that of the western realm. In a study of the regional news channels in Tamil Nadu, it used sensemaking as a resource and intersubjectivity as an analytical lens to further decipher the typology of media organisations (Srikrishna, 2014). Sensemaking refers to how people make sense experiences, events, environment, structures and occurrences; simply stated, it means giving meaning to what is experienced. Sensemaking is posited as a generative concept (Weick, 2001) and a tool defining the routinisation process of organisations in the media business. Intersubjectivity can be best understood as a common sense understanding. Using sensemaking as a resource enables the consideration of both theory and practice, making it pragmatic and generative (Weick, 2001). It is posited as lens used to reveal the operating patterns in the media business. This research also explores sensemaking as a concept, applying it to Gujarati news channels, based on empirical studies conducted in Tamil news broadcast organisations (Srikrishna, 2014). These theoretical underpinnings and empirical findings inform this study. The original study used participant observation and interviews, while this study has integrated data from interviews to understand sensemaking and news broadcast organisations.

It is read in the social realm and is shaped through interactions, manifesting into shared meanings that give us a sense of how Gujarati news channels are perceived. This has been presented as thematic insights that help us understand what is going on in the regional news channels.

LITERATURE REVIEW

The sensemaking perspective (Weick, 1995, 2001) and its progenitor in the organising model (Weick, 1969, 1979) are, perhaps more than any other perspective in organisation studies, closely associated with a single living person ... (Colville, 2009). Tracy (2012) suggests that sensemaking theory 'encourages researchers' to understand and study interactions with the goal to uncover 'thinking and behaving', like an 'outside-in' approach (Tracy, 2012). Another theorist, Colville, whose work is again looked into, is in fundamental disagreement with Weick. Although both the theorists deal with sensemaking and organisations, Weick positions it as 'organization change' and Colville as 'organization changing' (Clegg, 2009). However, Clegg (2009) notes that neither of them consider politics – 'There is a connection to be made here and a gap to be filled'.

Organisational stories carry potent meaning. They are a potential resource in the development of the rules and as currency in playing out organisational games (Falcione, Sussman, & Herden, 1987). Sensemaking as a body of knowledge has interdisciplinary application and it is important to be aware and acknowledge this. While studying sensemaking, intersubjectivity is embedded. Weick (1995) talks about sensemaking being embedded with two layers of activity – one of which is intersubjective and the other is the generic subjective (Weick, 1995). The level of the intersubjective comes first according to Weick’s conceptualisation. In this level, the movement is from ‘I’ to the ‘we’ plane. The sensemaking background helps in giving this study an ‘outside-in’ approach (Tracy, 2012). This is done by assessing the turf in the broadcast sphere in Gujarat.

BROADCAST SCENARIO IN GUJARAT STATE

Table 1: News Channels in Gujarat

S. No.	News Channels	Establishment Year	Ownership	Ownership	Media Group Presence (Since)
1	ABP Asmita	2016	ABP Group (ABP News Network)	Media conglomerate. No Gujarati origin	1922
2	Sandesh News	2013	The Sandesh Ltd.	Ahmedabad-based ownership of Gujarati origin	1923
4	TV9 Gujarati	2007	Associated Broadcasting Company Ltd.	Hyderabad-based Associated Broadcasting Co. Pvt. Ltd (ABCL)	2003
5	ETV News Gujarati	2014	ETV News Network	Acquired by Reliance Industries owned by TV18/Network 18	ETV (Hyderabad daily Eenadu) launched its news channel in 1995
6	VTV News	2012	Sambhaav Group Media Pvt. Ltd.	Ahmedabad-based ownership of Gujarati origin	Sambhaav Media launched in 1986
7	GSTV	2006	Gujarat Samachar Copyrights with Destination Media Inc.	Ahmedabad based ownership of Gujarati origin	Lok Prakashan Ltd. owns Gujarat Samachar, one of the pioneering newspapers launched in 1932
8	Zee 24 Kalak	2017	Zee Media Corporation Limited	A subsidiary of Essel Group	Zee Media Corporation launched Zee News in 1999

Indian news channels are available in more than 70 countries. The number of licensed private satellite TV channels reached 877, of which 389 were news channels and 488 were non-news channels (FICCI-FRAMES, 2018). The news channels in Gujarat can be categorized into two: one the regional channels, which can be defined as the channels run and owned by the natives of Gujarat, such as Sandesh News, Bizz News, Gujarat Samachar, Mantavya, Nirmana and VTV Gujarati, and the other being the national channels which have ownerships at the national level but have their regional language's channels functional in Gujarat, such as ABP Asmita, TV9 Gujarati, News18 (Formerly ETV Gujarati) and Zee 24 Kalak.

The site Gujarat was deduced based on Jeffery's work that drew tacit parallels between the states. Jeffery also suggests that the proprietors of Gujarati or Tamil newspapers are 'down to earth' (Jeffery, 1997). While there have been many comparisons drawn in the article, interestingly, the print scenario comparing Tamil Nadu and Gujarat, perhaps in an understated way, warrants a mention.

As Jeffery (1997) notes, 'Gujarati and Tamil newspapers are characterized by screaming layout, spectacular stories and big headlines'; 'Even sensational Tamil papers like *Thanthi* or Gujarati papers like *Gujarat Samachar* and *Sandesh* have the flavour of a *New York Post* or a *British Sun*. The 'package' is international, even though the contents must be sensitively local'; 'What works in West Bengal and Kerala probably will not in Gujarat or Tamil Nadu' (Jeffrey, 1997).

We have a sense of how the print media used to be perceived; however, the broadcast scenario is relatively new and is an intriguing site to study. There are three significant highlights, which Jeffery's work (1997) suggests, the primary impression is that of the Gujarati media being loud, the second pertains to a tinge of cultural imperialism with preference for international packaging and the third has to do with parallels being drawn in terms of content, packaging and localisation. We, however, do not have a sense of how the Gujarati news channels as media organisations are perceived. Is their sensemaking evident? Will the spheres of speculation shed light on it?

RESEARCH QUESTIONS

The research questions this study is concerned with are probing, understanding the ownership matrix, news channel's routinisation and operation and aiming at reading and developing a sensemaking understanding of Gujarati media houses.

1. How are Gujarati news channels made sense of?
2. What are the spheres of speculation in regional Gujarati news channels?

The primary study in Tamil Nadu spanned for 2 years and has documented a number of embryonic themes unique to regional news channels. These empirical findings will inform the basis of this study (Srikrishna, 2014). The themes explicated will seek to build an emergent understanding of these news channels. They will also aid in answering the spheres of speculation; by speculation we mean the perceived assumptions, reflections and deliberations prevalent about and around the regional news channels in Gujarat.

METHODOLOGY

The research is an exploratory and interdisciplinary study. Our endeavor to explore regional news, especially in a complex amalgam of cultures, language and geo-political Indian scenario, calls for acceptance that reality is socially constructed. It is unique to a site or organisation explored. The spurt of news channels in the Indian domain began in the 'late 1990s and early 2000s' (Thussu, 2007, p. 96). Each state within India has different dynamics. There is merit in extending such studies to every state.

Eisenhardt and Graebner (2007) highlight in the context of case research that the '... researcher has to frame the research within the context of this theory and then show how inductive theory building is necessary. Typically, the research question is tightly scoped within the context of an existing theory, and the justification rests heavily on the ability of qualitative data to offer insight into complex social problems'.

As Eisenhardt and Graebner (2007) suggest, the study will capitalize on inductive theory building, with the study carried out in Tamil Nadu, informing the experiential reasoning and guiding to function as an entry point into the broadcast scenario at Gujarat. The epistemological logic of this study lies in the social constructionism realm, thereby privileging the 'search for themes and patterns that are socially shaped' with the 'ontological assumption that communication is almost always intersubjective because of its social context' (Srikrishna, 2014).

While there have been reservations against undertaking replication studies, one needs to be aware that there are many ways to undertaking it. Our study effort best qualifies as 'generalisation and extension' study, wherein the researcher uses different research

procedures and draws from a different sample of population (Tsang & Kwan, 1999). The conceptual and empirical understanding from the study in a different state guides and informs the study, but in no way would that influence translate to making this a comparative analysis. The sites are distinct and there is merit in studying each state separately. However, the previous study serves as a critical entry point in this study, providing the expertise of where to look for patterns and how. This is also premised on our 'taken for granted way of understanding the world' and by undertaking a critical stand to such effect (Boje, 2001).

This study although positioned in the communication discipline borrows across disciplines, which include sensemaking, organisational communication, organisational studies and communication with media studies as a sub-discipline, making the research interdisciplinary.

RESEARCH FRAMEWORK

The major themes that were explored began with a straight-forward enquiry on how Gujarati news channels functioned. It paved way to unearthing striking insights into the broadcast media's employee base, especially their perception on their industry as well as about news sense, newsgathering and news making. This contributed towards an emic perspective, typically understood as an insider's view. It was supplemented with an etic perspective (an outsider's view), built from two standpoints, viewers and journalists. Those classified as viewers were also experts or proponents in their field of occupation, who followed Gujarati media and news reporting closely. They also consumed Gujarati news on a daily basis. The journalists or media personnel interviewed had diverse experience in reporting, editing functionalities and leading their news teams. They also closely followed the growth and expansion format within the regional mediascape, enabling them to share conversant observations and facts.

This qualitative study used in-depth interviews (refer Appendix I) as the data collection technique, with (a) thematic analysis and (b) organisational storytelling and events used as data analysis tools. The respondents who contributed the emic perspective included reporters and journalists, while the etic perspective was built based on the respondents who were journalists, viewers and experts. To elaborate further, the three categories of respondents¹ include three reporters² (defined as solely involved in newsgathering), three

¹ The respondent profile can be accessed by mailing the author.

² Reporters will be mentioned as Reporter 1, 2 and 3 in text whenever quoted verbatim.

journalists³ (with vested power too influence) and seven viewers⁴ (who may also be defined as experts in the field of academics, management and media). The site being relatively unexplored, in-depth interviews with each of them helped in enabling thick descriptions, and predominantly six of our respondents particularly gave an insider's insight. The respondents largely belong to the media industry, with six of them working in the news industry, three of them in academics (who often critique media and news developments) and three other respondents with expertise in management, advertising, marketing of media-oriented domains.

The data analysis technique uses thematic analysis. The sampling techniques used includes convenience and snowball sampling. It made sense to privilege the generativeness of the field, as till date there has not been an academic or extensive research effort to understand the *Gujarati* broadcast organisations. With the exception of a few peripheral mentions in news reports, this is a site seldom explored.

Although an ethnographic immersion would have been ideal, this study has tried to explicate patterns and trends by engaging with the study respondents in detail and has focused on capturing the rich explanations and thick descriptions in their responses. Verbatim quotes from respondents have been included wherever relevant. The study of the Tamil Nadu broadcast sphere⁵ also used 'thick descriptions', and it is considered an important technique in enabling the transferability of the study and also holds the view that there are 'indeed multiple-constructed realities and not one objective reality' (Lincoln & Guba, 1985). The trajectory is following the 'what, how and why' questioning patterns to achieve a deeper sense of engagement. The organisations and the actors have been read by attempting to understand their organisational context, thought leadership, media ownership, operating model and idea of commercialisation (Srikrishna, 2014). The context-specific conditions are being privileged with these constructs being explored under the themes that have emerged.

RESEARCH FINDINGS

The thematic arrangement of the research findings is characteristic of the etic-emic circularity, and the theme analysis used in this research is a combination of inductive, deductive and grounded approaches (Boje, 2001). As already stated, an emic account presents the insider's view; the insiders in this study are the respondents who are a part of

³ Journalists will be mentioned as Journalist 1, 2 and 3 in text whenever quoted verbatim.

⁴ Viewers will be mentioned as Viewer 1-7, in text whenever quoted verbatim.

⁵ The earlier study of the corresponding author, based on which this study is set.

the media organisations explored. An etic standpoint integrates two dimensions to present the findings, one is gathered through past studies and research efforts, while another offers an outsider's perspective, which is represented in this study through inclusion of experts as viewers and the journalists from other organisations. The etic and emic circularity allows scope for integration of the existing literature, reflected through the third theme explicated – 'reverse chequebook journalism' (Jeffery, 1997). In addition, data reduction was also followed (Lindlof, 1995, p. 216). The themes pertain to aspects of media organisations, such as stakeholder dynamics, ownership, corporatisation, operating model, editorial positioning, journalistic practices and editorial control. These feature as six emergent themes:

1. Absence of explicit political stakeholdership: caste-based ownership argument
2. The shift from family-owned businesses to conscious corporatisation
3. Banking on stringer-based model
4. Impact of reverse chequebook journalism
5. Anti-establishment debate: pro-party versus pro-government dimensions
6. Centralised disbursement of news and approvals: editor-driven output

Absence of Explicit Political Stakeholdership: Caste-Based Ownership Argument

The scenario in Gujarat is unlike other states especially that of Tamil Nadu media organisations, characteristic of operating in a state where often media and politics are intertwined (Ranganathan, 2006). This does not mean that there is an absence of political or ideological dissemination; however, the shift is from political ownership to family-based ownership in Gujarat and with a tinge of communalistic tendency or a socio-political affiliation. The print media scenario was representative and infamous for being a proponent of such a communalisation approach.

As Mehta notes, 'The expression of religious nationalism has much to do with the way the media carries the news. Apart from commercialization, there is a great deal of the communalization of the media' (Puniyani, 2009).

However, although a couple of respondents echoed similar sentiments, the overall sensemaking perception about the communalisation orientation came across as something

not resonant of strong views or ideologies in the broadcast scenario.

Viewer 2 (a senior academician) suggests that news channels are not communalized in any sense; however, they report on the communalisation rhetoric which often forms the basis on which political discourses are framed.

This is confused with the channel's ideology when merely an ideologue from the political spectrum is covered. The news channels and reporters currently in operation are also being attributed to a casual and laid-back approach to journalism, a stark contrast to the degree of aggressiveness and hard-hitting approach in the English news channels.

Reporter 1 opines 'Why should we go around screaming and stressed? We don't need that. We are happy and peaceful in the way we report stories. I do not support any political party in the state, not even the ruling party. But I have to respect sentiments of my editor. I know what gets approved or rejected'.

On further probing, Reporter 1 revealed that the management did not encourage communal views and would often want the news produced to 'sound safe' rather than 'neutral' or 'communal'. By communal, the reporter meant a socio-political affiliation or support.

Journalist 1's perspectives added critical insights in this exploration – 'My experience has been that Gujarat news channels now are quite competent with bringing out news, but there is an amount of caution they have when it comes to analysis'.

Furthermore, there is a perception that since most of the Gujarati natives who own these media organisations are upper-class Hindus, they may have a bias against other communities or lower castes. There are interesting patterns of revelations our research results explicated:

1. Barring two respondents, the rest iterated that upper-class Hindus favored BJP; however, most of these channels have had content against the party.
2. That they all (owners) belong to a class of capitalists who have only one intent of making money.
3. Owners of certain news channels and their parent media organisations although may have had upper caste sentiments, it is something lost in the temporal space, as continuity and consistency of perspectives are absent.

4. The advent of corporatisation of media takes the larger criticism than any other factor.

Weick (1995) talks about being plausible rather than accurate, and these perceptions have the element of plausibility; typical 'cues' of 'class consciousness' enunciates a broader sensemaking perspective of resonance against caste having a role to play, although there is accuracy in most native Gujarati owners being upper class (Weick, 1995).

The Shift from Family-Owned Businesses to Conscious Corporatisation

The native Gujarati entrepreneurs established media organisations as family businesses. This has run into the third generation, with the third generation leaders moving away from majority of the habituated practices. This indicates that the meaning making happens at the organisational level, where the realm of intersubjectivity and generic subjectivity meet. These are characteristic of the generic subjectivity which implies common environment, rules and policies.

However, there is a conscious attempt to resituate and rearrange the generic subjectivity established over the past two generations. Necessarily what is currently operational is the process of overwriting and refabricating the conditioning, which used to be crucial to the organisational space as these can be best described as 'pattern(s) of technique for survival' (Campbell, 1960). The habituated survival patterns have transformed. The cultural and social cues in the environment within the organisation used to be dependent on nurturing personal and working relationship with the owners. The employees used to be fixated on connecting with the family owning the business, which is not the case now. The disjuncture between the governing family and its establishment's employees is apparent. Nevertheless, these cues are bound to be re-written with the advent of corporatisation, although most media organisations continue to be family-owned, signifying a third-generation leadership.

Reporter 3 notes, 'My neighbor used to work for a leading Gujarati daily. He was close to the family and used to boast of his association with them. Now I work for the news channel by the same family. The current generation keeps to themselves, except a few close aides'.

In a way, the association with owners used to be a point of satisfaction at work till perhaps a decade ago. The turn towards systematising the media organisations has brought in more formal structures of interaction. In a nutshell, ascription to psychological ownership strategies is minimal, in comparison to their first- or second-generation patriarchs. It also in a way means lesser employee control in terms of premising familiarity with the family and

conjuring trust to ensure superlative efficiency to achieve organisational ends; however, such identification and association with business families have reduced considerably (Pierce, Kostova, & Dirks, 2001). Nonetheless, how agency is distributed across such organisations is a pertinent question that could not be addressed in this research. It is crucial because often agency problems spill over to define corporate governance.

Although the work force is smaller in comparison to a print unit, there seems to be a divide within, between those who come from the rural areas of Gujarat and those born and brought up in the cities, specifically Ahmedabad.

Reporter 2 opines that ‘I see a huge divide among those from Gujarat interiors and the city-bred. The former have a very good command over the language but are very casual. Those city-bred are more polished, but make mistakes when foiling their stories in Gujarati, however they keep looking for new opportunities and keep jumping jobs’.

Those from a sub-urban or rural background seem to be constructing an environment that is characteristic of strong regional language skills, ironically paired with a blasé attitude. This seems to be the predominant reading of regional news room environment. They are seen as reasonably enduring persons playing a key role in the news channel’s internal environment. Further within the environment, the background of employees seems to play a role in constructing the internal environment, typically identified as ‘laid-back’ in the current scenario.

In the intersubjective realm, there seems to a larger understanding on attributing lesser value to inherited leadership. There seems to be an intersubjective agreement between most of the respondents, particularly Journalist 1 and Viewer 3 (a senior academician) who suggest that those who run most media organisations in Gujarat also own huge business conglomerates and are running newspaper or news channel for attribution of ‘pride’ than as a business purpose or passion. Inherited leadership seems to also reduce the awe, respect and aura of classiness, typically associated with the entrepreneurial pioneers in Gujarati media industry. Morck, Stangeland, and Yeung (2000) place an argument on how inherited leadership tends to slow down the pace of economic growth (Morck et al., 2000). In the larger realm, moving away from the family-owned psychological leadership to a more corporatized outlook seems inevitable.

Banking on Stringer-Based Model

The regional Gujarati news channels considerably depend on stringers for newsgathering. As with most national and regional media, both print and broadcast news channels bank on a network of freelancers, called stringers. These stringers often occupy a strategic position having contacts and informants ranging from politicians, lawmakers, celebrities, industrialists to police personnel. Banking on stringers has been there since the inception of organized journalism. Yorke points out how stringers often are ‘wooded by news editors’ and provide ‘much of the basic news’ (2000, p. 19).

As Journalist 2 reasons, ‘Usually bureaus have limited staff. It is humanly impossible to gather news from all quarters without stringers’.

Another dimension that came out suggests that although these channels from outside may seem like competing with each other, there, however, exists a forthcoming and amicable relationship between them. In fact, as noted in most regional bureaus, they tap into the same sources, using the same set of stringers, and rely on the same footage too. This is made possible as most bureaus of news agencies also engage with the same set of stringers for content production. Similarly, once a news agency comes into play, every regional channel can use the same footage by giving the news agency the acknowledgement. Such practices give rise to a cultural norm of sharing across organisational boundaries. The environments in each of the newsrooms get influenced by each other. The degree of influence may vary; however, the cues and enactments are arranged in terms of the dependability between the organisations, permeating into defining the overall cultural, newsgathering and organisational norms.

Interorganisational arrangements are distinctive among these regional news channels. It is symptomatic of generic subjectivity and interchangeability, with an emergent – ‘intimacy, discretion, close proximity and small sized collectivities where people work primarily as collaborators rather than experts’ (Weick, 1995, p. 174). These trends at the organisational and interorganisational levels influence the overall sensemaking of regional news.

Impact of Reverse Chequebook Journalism

The reverse chequebook journalism is in a way unique to the Gujarat turf, as it was something that mushroomed out of this sphere. The impact of which is still proliferating shared norms and practices and can be read from myriad dimensions.

‘...‘newsadvertisement’ was said to be peculiarly Gujarati contribution to the newspaper industry. Governments, organisations and private citizens, unable to get their versions of events into the big-circulation dailies, sometimes bought full-page advertisements to get out ‘contradictions, corrections and polemical material about different events. The government’, according to the Editors’ Guild, ‘heaped ads and a good amount of revenue on what it should have regarded as offending newspapers’. This was, the Editors’ Guild concluded, ‘chequebook journalism in reverse’ (Jeffrey, 1997).

The profit-driven newspaper business in Gujarat pioneered atypical newsadvertisement, due to the readership and reach it enjoyed. These practices have been normalized over time and are put in perspective as an operating norm in media business.

Journalist 3 acknowledging such practices adds a dimension reasoning suggesting it is seen as an opportunity to make money, ‘They do not need it to run the business because there are other businesses that can fund this. But they will not let go of even a small opportunity to make money’.

The reverse chequebook journalism may not always seem unethical, as over the years it has a normalized modus operandi and emerges as a subtle advertising strategy.

Journalist 1 makes pertinent observation about this scenario signifying how it has become a consolidated practice, ‘Nineties used to be very bad. Now I feel it’s all centralized. Plus you have one party ruling the state for so long...things tend to get organized. Even media corruption. I mean to say it’s not brazen in Gujarat like other a few other states, where journos are on payrolls of parties but it does exist at a larger level’.

There are multiple realms from which these revelations can be read; however, the most pertinent realm in the context of this article is to acknowledge the reverse chequebook journalism, which is a conventional practice that has got the negativities associated with it subverted and normalized. The existence of a single party ruling the state also produces its own analogies. The opportunities in advertising and newsadvertisement can be read as being ‘schema-driven’, rather than ‘evidence-driven’, as ‘in contemporary organizations the cost of being indecisive outweigh the costs of being wrong’ (Weick, 1995). The overarching acknowledgment of such practices discolored the ethical underpinning of journalism is an often encountered perspective. They attribute those in power and decision-making profiles as

lingering on to such practices, even though they have the potential to abandon such practices of money-making.

As Viewer 3 (a senior academician) reasons, 'News is business. Advertisements drive news' and nothing can be done about changing it.

A hegemonic minority have engulfed the negative association and made it seem a directional and plausible strategy of business, although it acts as dubious attachment to journalism.

Anti-Establishment Debate: Pro-Party Versus Pro-Government Dimensions

Since March 1998, the government in the state of Gujarat has been formed by *Bharatiya Janata party (BJP)*. Whether it is an admissible preposition or not, when 'social stability, racial harmony, economic growth and political stability are at stake', then the relationship between 'press and government is expected to be co-operative rather than adversary' (Xu, 2005). The willingness to be accommodative is a result of being interdependent for each other's means and ends, with that of the press concerning sustainability and revenue; and the government's effort in reaching out to the masses with the right kind of strategic communication efforts, in an ironic platform of dissent, characteristic of the press. A report in *scroll.in* has quoted one of the journalists in Gujarat – *Mitra*, who concedes that with an exception of a couple of media houses, they do not publish anything anti-government or anti-party for the fear of backlash; and further adds that a 'leading regional language newspaper was shut down for around a month soon after Modi came to power for carrying anti-Modi stories' (Bhushan, 2016).

Reporter 3 suggests 'In my previous workplace, editorial was pro-BJP, in my current organization, they are out and out anti-BJP and anti-establishment'. Reporter 3 speaks of an inherent bias in taking sides – 'Aligning as anti or pro establishment happens because we promote privatization. I cannot take a call, I have my bias, my editorial has theirs, capitalism wins, and media cannot be independent anymore'. Journalist 1, however, brings a view on the contrary – 'Gujarati media is far more independent They had excellent reports during Banaskanta floods, Saurashtra agrarian crisis, all were anti-government; something that national media will think twice before airing'.

The anti-establishment stand in journalism is not new; it is something that repetitively resurfaces. It is best understood as an opposition to conventional economic or political

institutions, for the larger welfare of the society. There also seems to be a belief that anything anti-establishment is newsworthy. There are typically two kinds of arguments one can come across in the Gujarati media organisations, one is a pro-party approach and the other a pro-government approach. Pro-party denotes being pro-BJP⁶ and pro-government denotes support for the government as an establishment, thereby distancing oneself with the political party associated. It makes sensemaking even more remarkable and produces a remarkable alignment between ‘wholes and cues, documents and meanings, figures and grounds, periphery and center, all define one another’ and ‘sensibleness derives from relationships, not parts’ (Weick, 1995). The perpetuity of the ruling government may have organized a number of practices, pertaining to the realms of co-operation, dissent and revenue or benefit augmentation dimensions.

Centralized Disbursement of News and Approvals: Editor-Driven Output

Stories take the editorial tone and tenor in its output. Every story passes through the editor. Furthermore, most of the news channels do not depend on government funding of any kind for sustenance, barring advertising revenue, which is seen from a profitability angle rather than from the sustenance front. The news stories, especially political or celebrity targeting or boosting reports, always go through the editor. Usually, the conception period for news stories in television is short, unless it is an investigative or a scheduled exclusive content; making it imperative for every primetime and political content to pass through the editors. Often this is synonymous to one or more representatives who own the media house, particularly when it is a family business. Over time, expectations are understood and the easy-going attitude of most of them in the newsroom creates an environment of accepted norms and routine. This builds a strong routinisation. The sensemaking practices and its process rely heavily on routine (Srikrishna, 2014).

The ideological and political standpoints, anti- or pro-governmental tone and the type of stories that are usually aired build an understanding internally among the journalists, who often would tread the conventional trail. This way there would be more acceptance and lesser disappointments of their stories being shelved. A constructed sensemaking routine was apparent while studying the routinisation aspects. This was particularly deemed necessary as most channels intended to make their stance explicit.

Viewer 1 (an academician) states that ‘At least three of the five top news channels are extremely critical of the ruling party and Modi in particular’. Viewer 4 (proponent in thought leadership) adds that ‘Almost all channels report the same

⁶ BJP – Bharatiya Janata Party – the ruling party in the state.

way, sound the same'. Furthermore, Viewer 5 (an industry expert) points out that consistency in maintaining political orientation is extremely critical, as it is used as a brand appeal and attracts viewers who have similar ideological expectations.

Although the news organisations always intend making their leanings evident, it may not always be apparent to those working within, as every context triggers a different reaction; for instance, there have been political stories aired for the purpose of TRP (Television Rating Points) or advertising, supporting political partakers, despite the fact that the same set of politicians or parties have been criticized on other instances. So essentially, the predictability in the intersubjective realm goes astray in such erratic circumstances. It could be attributed to the decision-making powers on top and their strategic play. As Weick (1995) suggests, 'there is always some loss of joint understanding when intersubjective translates into the generic' (Weick, 1995, p. 72).

The centralized disbursement of news is hence indicative of strong editorial control. It in a way defies power decentralisation. News assemblage happens by taking into consideration the selection of content and sponsorship considerations among others factors shaping news (Ranganathan, 2006).

CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH

The power of regional language and localisation are pertinent additions to literature in myriad arenas, not restricted to business, communication and media studies, but are expansive; these include organisational studies, management, globalisation studies, diaspora studies and economics, to name a few. It has the potential to displace 'pan-Indian' networks and communicates 'a new dimension with language-/region-specific channels', with auxiliary consequence to diasporic settlements across the globe (Sonwalkar, 2001). Hence, regional or state oriented studies are especially pertinent to consider and undertake in research, especially of broadcast news organisations.

This study also questions the lack of academic or research interest in exploring the power and strength of regional media. The 'search for patterns' (Boje, 2001; Spradley, 1980) in this study explicated six main themes shedding light on how Gujarati news channels function. The internal stakeholders make sense of what is happening in their organisation retrospectively through cues, of which ownership, editorial leadership and organisational culture are the strongest. The viewers also search for cues in the news narrative that makes explicit the political and ideological positioning. Media ownership has resulted in a

trickledown effect by gradually moving away from traditional revenue models known,⁷ from being entirely dependent on advertisers to other means of funding essentially signifying access to alternate resources (Srikrishna, 2014).

The sensemaking practices such as reciprocity and mutual respect were integral to the regional news broadcast organisations studied. The centralized disbursements of news, the emblematic air of casualness in the regional organisations, the notion of belongingness and adherence to the organisation's implicit and explicit norms, the organisational values and positioning are deeply entrenched in the intersubjective realm, within which the mediascape of Gujarat operates. The pro-party versus pro-government demarcation in news is a novel perspective explicated. The 'intersubjective interaction is central to constitution of social reality, individuals can be seen to be both 'constituting' and 'constituted by' their participation in communities' (Bianchin, 2006). The researchers' standpoint in this study, privileging generativeness, was informed by social constructionist practice to pay attention to the taken-for-granted practices recognising the seemingly nugatory means of enactment, which helped reify fads from reliable patterns of meaning-making and sensemaking within organisations.

The narrow respondent base for this study could be considered a limitation; however, it is also to be taken into consideration how tough regional news turfs are to enter; even after establishing a relationship with respondents, to make them talk about their job or their management comes with a circumscribed disclosure and is often paired with apprehensiveness and trepidation of talking or sharing their slice of reality. Another dimension which this study could not meticulously cover pertains to advertising and revenue generation model of news broadcast organisations. In addition, in more than one way, news production is technology-driven. It would be interesting to study the techno-social aspects of regional news production. Future research can strongly consider ethnographic immersions in the newsroom, as it would open up insightful vantage points, in understanding the intricacies of regional news assemblage and production. It would also help address the limitation acknowledged in this study.

⁷ Such as the two-sided markets (Anderson & Gabszewicz, 2005)

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Appendix I: Discussion Guide

The discussion guide from primary study effort was used 'as is'; however, a few questions were discarded and a few more questions were added to explore the Gujarati regional media (Srikrishna, 2014). Whatever catered to the research questions of this study were retained. The search was for patterns, and hence the way these questions were articulated had minor nonconformities, based on respondent's time, environment, mode and platform of interaction, language skills and grasping skills. The interviews were predominantly in English and Hindi. Generativeness in the zone of exploration has been privileged, as essentially my search was for patterns (Srikrishna, 2014).

1. How long have you been working here?
2. Can you please throw light on your past work experiences? If a fresher, why did you choose to join this particular organisation?
3. Did you have the freedom to choose the role you wanted?
4. Why did you come into this role profile? What are your ambitions?
5. What are the conflicts you face with other actors?
6. Do you form your views/opinions based on what you feel? How much does your colleague's view/opinion influence you?
7. Do you have independence in making your own decision?

8. How do you communicate – in which language? Style? How does it vary with the kind of person you interact with?
9. In day-to-day interactions, whom do you think usually has more power, you or the persons you interact with?
10. Do you have an ideological leaning? Is your organisation pro-government or anti-government?
11. Do you feel Gujarati news channels are partial to certain parties and critical in assessing others?
12. Have you changed in the way you communicate after working here?
13. Are you clear on what are your editorial expects?
14. How different are you from the others here?
15. Are you a different person outside this premise?
16. Are there any written/unwritten rules you are expected to follow?
17. What do you think are your working habits? (Style of working, organising, taking breaks ...)
18. Are there certain guidelines you always stick by although you have never been told?
19. How much importance do you think is given to news versus advertisements? What you think about the kind of advertisements that are telecast in your channel?
20. How do your editorial and marketing teams work? (To those in managerial and decision making profiles)
21. What kind of politics do you encounter when you work?
22. How is a typical day at work? How would you describe your routine?
23. What are the advantages/disadvantages of working with a regional news channel? How often does the organisation communicate to you?

24. Who communicates to you often? Why?
25. How would you describe your organisation?
26. How is the ownership structure? Is it family-owned?
27. What kind of interpersonal relationships do you share with your colleagues?
28. How supportive do you think is the management (or higher-ups as the case maybe)?
29. Do you agree to certain decisions because your colleagues agree? Do you find yourself in a compulsion to agree with certain ways of working/practices because the management has set the guideline?
30. If you are in such a situation, do you try to influence your view openly? If not, how do you express dissent/dissatisfaction? If you choose to remain quiet, why did you opt not to speak out?
31. Do you think you are important for your organisation?
32. Are there powerful actors whom you always abide by? Do you oppose them at any point of time? Are you forced to fall in line with his/her/their opinions?
33. Are caste/religion/political loyalty strong considerations in the news channel(s)?
34. If you think your organisation supports a particular political will, how do you feel about it?
35. Do you support it? Can you openly voice your dissent if you don't? Can you express what you feel freely or you go by what is collectively expressed?
36. What do you think about your competitors? (Colleagues, departments, other news channels ... as the case maybe)

AMBIDEXTROUS SELLING BY FRONTLINE EMPLOYEES: A REVIEW-BASED STUDY[#]

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INTRODUCTION

Ambidextrous selling among the frontline employees (FLEs) is the outcome of the coherence between the traditionally considered conflicting tasks of selling service, retention of old customer while acquiring new ones and selling of new and existing products. Instigated by Duncan (1976), 'ambidexterity' denotes the simultaneous pursuit of conflicting the organisational demands of alignment and adaptability, which were then considered better to be achieved separately by creating dual structures within an organisation. Later, March (1991) defined ambidexterity on the basis of *exploitation* and *exploration*; the essence of exploitation is the refinement and extension of the existing competencies, which is the creation of efficiency and reliability with positive, predictable and proximate results. The kernel for exploration is experimentation with new alternatives for creating flexibility and creativity with distant and uncertain and often negative results. The traditional view conceives

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exploration and exploitation as two exclusive and competitive activities which are best to be balanced rather than performed simultaneously due to scarce resources (March, 1991). Various theoretical perspectives had been proposed to elaborate as how ambidextrous organisations manage the trade-off between conflicting tasks: initially ambidexterity was managed by creating specialised business units within an organisation to manage the alignment-adaptability-related tasks. The scholars termed it as *structural ambidexterity* (Duncan, 1976; Gibson & Birkinshaw, 2004). *Contextual ambidexterity* is the creation of systems or procedures across entire organisation, which assists individual employees in taking decisions of their own to decide how to divide their time and resources in conflicting demands of alignment-adaptability (Gibson & Birkinshaw, 2004). With *sequential ambidexterity*, the firms manage ambidexterity by cyclical process to achieve ambidexterity over time, rather than concurrently. *Realised ambidexterity* advances ambidexterity in terms of what a firm attains through exploitation and exploration-related activities (Simsek, 2009).

Impressions of ambidexterity at the individual level were initially presented by Gibson and Birkinshaw (2004, p. 211) in their proposition 'although ambidexterity is a characteristic of a business unit as a whole, it manifests itself in the specific actions of individuals throughout the organization'. Raisch, Birkinshaw, Probst, and Tushman (2009) noted that a firm's ambidexterity is rooted in the employee's ability to manage disparate task demands and integrate them for cross-fertilisation, making it clear that organisational ambidexterity cannot be fully comprehended until understanding it at the individual employee level. The present-day academicians are focused to apprehend the ambidextrous behaviour of frontline sales employees because of the fact that being ambidextrous, salespersons can add more revenues streams to the organisation and enhance the satisfaction of the customer without incurring any additional cost (Borgh, Jong, & Nijssen, 2015; Jasmand, Blazevic, & de Ruyter, 2012).

Despite its vital importance in the organisation, the understanding of the subject is still in the dawning phase as there are a handful of studies apprehending ambidexterity among salespersons. Considering the importance of a clear understanding of the various dimensions of ambidexterity, this article is aimed to provide a brief summary of the studies assessing the ambidextrous behaviour of FLEs in selling goods or services and present direction for future researches. This article is divided into three sections; initially, a brief idea about the ambidexterity of FLEs and its antecedents are being provided, and thereafter the summary of the studies exhibiting ambidexterity is presented followed by the suggestions for future researches.

AMBIDEXTERITY AT THE INDIVIDUAL LEVEL

Extant literature defines ambidexterity as an employee's ability to achieve or accomplish seemingly conflict tasks. Jasmand et al. (2012) state ambidexterity as the ability of FLEs to engage simultaneously in behaviours that might otherwise be viewed as being in conflict with one another. Ambidexterity has been viewed as an orientation that motivates a set of customer service behaviours and a set of cross/up-selling behaviours. Extant ambidexterity literature exhibits different levels of organisational structures where ambidexterity is observed and studied: organisation level (Sarkees, Hlland, & Prescott, 2010), managerial level (Van Der Borgh & Schepers, 2014) and individual employee level (Yu, & Kimpakorn, 2014; Yu, Patterson, & de Ruyter, 2013). Different dimensions of ambidexterity are as follows: 'exploitation-exploration' (Kauppila & Tempelaar, 2016), 'efficiency-flexibility' (Yu, Gudergan, & Chen, 2018), 'sales-service' (Yu et al., 2013), 'hunting-farming' (DeCarlo & Lam, 2016; Nijssen, Guenzi, & van der Borgh, 2017), 'sale of new and existing products' (van der Borgh, de Jong, & Nijssen, 2017) and 'service-cross/up-selling' (Jasmand et al., 2012), across various industries such as pharmaceuticals (Sok, Sok, & De Luca, 2016), ICT (van der Borgh et al., 2017), service (Yu et al., 2018), retail (Van Der Borgh & Schepers, 2014) and hospitality (Rapp et al., 2017).

ANTECEDENTS OF AMBIDEXTROUS BEHAVIOUR OF SALES EMPLOYEES

The existing ambidexterity literature manifests two set of antecedents of ambidexterity among frontline sales employees. The first set includes the internal state of desire of an employee to be ambidextrous and the second set is clubbed with the organisational factors that lead an individual employee towards ambidexterity. Under internal factors, *intrinsic motivation* is of paramount importance in driving an individual employee towards ambidexterity because an intrinsically motivated employee is more probable and suitable to handle dual goals and achieve positive service related outcomes (Kao & Chen, 2016). Apart from that, the employee's *self-efficacy* – belief in the innate ability to achieve goals – increases the ability of an employee to be flexible and persistent and stimulates the sales attempts while service delivery (Patterson, Yu, & Kimpakorn, 2014; Yu, Patterson, & de Ruyter, 2015). 'Reason to' motivations, that is, *enjoyment to work*, *driven to work*, also emerged out as the drivers of ambidexterity. *Enjoyment to work* is the internal desire of the employee to pursue the tasks they find interesting or enjoyable. It enhances the positive emotions and favourable attitude towards job which lead to creative thinking and spontaneous engagement in service-sales jobs. *Driven to work* is the feeling to work to avoid guilt or to feel proud in case they perform well. Employees with this orientation feel inner pressure to work that may be detrimental in long run (Sok et al., 2016).

Locomotion orientation found by Jasmand et al. (2012) is one of most considered factors leading to the ambidextrous behaviour. It depicts the tendency of individuals to be in motion with respect to completion of tasks. Locomotion-oriented employees get started with a task and quickly move towards the next one without even evaluating whether they are moving in the right direction. *Learning orientation*, which exhibits the continuous desire of an individual to improve by acquiring new skills and mastering situations to augment one’s competence, also drives ambidexterity among employees. These employees like to take challenges and are not worried about failure and mistakes, rather they treat them as feedback and learn from them (Yu et al., 2015). *Organisation identification* refers to how much an employee is congruent with the goals, norms and values of the organisation, and also steer ambidexterity in employees. Employees with high organisation identification and working in ambidextrous organisations are internally motivated and willing to engage themselves in multiple tasks (van der Borgh et al., 2017).

Table 1: Antecedents and Outcomes of Ambidextrous Behaviour

Author(s)	Dimension of Ambidexterity	Antecedents of Ambidexterity	Outcome of the Study
Jasmand et al. (2012)	Service–sales ambidexterity	Locomotion orientation	Increase in customer satisfaction and sales performance, but loss in efficiency
Yu et al. (2013)	Service–sales ambidexterity	Empowerment, team support and transformational leadership	Service–sales ambidexterity enhances financial performance
Patterson et al. (2014)	Service–sales ambidexterity	Self-efficacy, service–sale climate and LMX	Increase in frontline employee’s service–sales performance
Yu et al. (2015)	Service–sales ambidexterity	Employee learning orientation	Service–sales ambidexterity is positively related to branch performance in terms of customer satisfaction and financial performance
Sok et al. (2016)	Service–sales ambidexterity	‘Reason to’ motivation – driven to work and enjoyment to work	Both driven to work and enjoyment to work enhance ambidexterity
van der Borgh et al. (2017)	Ambidextrous selling of new and existing products	Organisational identification and sales manager product selling ambidexterity	Positive effect on both organisational identification and sales manager product selling ambidexterity on the proactive selling of new and existing products
Nijssen et al. (2017)	Hunting and farming of customers	Incentive management and cross functional cooperation	Ambidextrous organisation (simultaneous hunting and farming) outperforms the organisation with single orientation

LMX: leader–member exchange

The organisational factors that infuse ambidexterity among individual employees are based on the theme proposed by Gibson and Birkinshaw (2004) as contextual ambidexterity. It is the creation of systems and procedures within an organisation assisting and encouraging independent decision-making among individual employees. Yu et al. (2013) observed empowerment – belief to have more authority and responsibility, team support – belief that the team values their contribution and cares for their well-being and transformational leadership – when leaders broaden and elevate the interests of their employees and stir their employees to look beyond their own self-interest for the good of the group, as three organisational level antecedents to the ambidextrous behaviour of employees. Perceived organisational climate and the leader–member exchange (LMX), that is, the quality of relationship between employee and immediate supervisor also sparks a sense of ambidexterity among individual employees (Patterson et al., 2014). Psychological or perceived organisational climate is the perception of behaviours that are supported and rewarded in the organisation. In case if an organisation supports service–sales behaviours, then employees will adopt the same. Employees with good relationship, trust and mutual understanding with the immediate supervisor receive encouragement and recognition for the work which helps them in taking creative actions without any fear or threat.

Nijssen et al. (2017) propose sales incentive management and cross-functional cooperation as two organisational level antecedents of the ambidextrous behaviour of sales employees. Sales incentive management schemes identify a match between organisational goals, compensation plans and employee motivation facilitating employees to pursue dual goals in anticipation of more revenues. Cross-functional cooperation attenuates the conflict among various departments and enhances the quality, speed and accuracy of information shared, thus aiding sales employees to be ambidextrous by easily switching between activities. Sales manager ambidextrous selling orientation is also found to drive ambidextrous selling among sales employees as ambidextrous managers encourage and advance their sales staff to pursue multiple tasks. Moreover, the salesperson perceives the importance placed by sales manager in dual-goal attainment and channelise his or her objectives accordingly (van der Borgh et al., 2017).

SUMMARY OF THE STUDIES

This section is divided into three segments on the basis of the studies assessing the ambidextrous behaviour of the FLEs in service–sales, selling new and existing products, and retention and acquisition of customers. The summary includes the objectives, the industry under which the study is conducted, sample size and the key findings of the study.

Service–Sales Ambidexterity

Ahearne, Jelinek, and Jones (2007) gathered data from 358 physicians through a questionnaire in the United States to examine the effect of salesperson (pharmaceutical sales representatives) service behaviour on their satisfaction and trust. The results indicate that salesperson service behaviour such as diligence, information communication and inducement plays a key role in building satisfaction among customers. While empathy and sportsmanship aids in building trust which, in turn, increases the customer share of the market.

In their pioneering work on service-cross/up-selling, Jasmand et al. (2012) advance ambidexterity at the individual level through an online survey conducted on 119 customer service representatives at a call center. The results indicate that locomotion orientation is positively related to ambidextrous behavior, and this relationship becomes stronger when locomotion orientation interacts with high assessment orientation. Moreover, strong team identification and high bounded discretion mitigate the interactive effect of locomotion and assessment orientation on the ambidextrous behaviour. Service–sale ambidexterity is not only positively related to customer satisfaction and sales performance but also resulted in the loss of efficiency.

Yu et al. (2013) examined 2306 FLEs in 267 bank branches of a retail bank to study the impact of contextual variables such as empowerment, team support and transformational leadership on service–sales ambidexterity at both individual and branch levels. At individual level, all the three variables; empowerment, team support and transformational leadership, are positively related to service–sales ambidexterity. Whereas at branch level, only empowerment and transformational leadership show a positive relationship with service–sales ambidexterity. Their results also show a positive relationship between service–sales ambidexterity and branch financial performance.

Patterson et al. (2014) conducted a cross-sectional survey in Thailand among 212 FLEs in various service industries. The results assert the importance of the three constructs, namely, individual differences (self-efficacy), organisational context (service–sale climate) and interpersonal elements (LMX theory), in achieving service–sales performance. Self-efficacy emerged as the strongest driver of successful ambidextrous performance. Moreover, LMX has a greater impact on service–sales performance under low environmental dynamism and high focal job experience. Self-efficacy has a stronger impact on service–sales performance under low focal job experience.

In their another study regarding service–sale ambidexterity of FLEs in the banking sector, Yu et al. (2015) examined 2306 from 267 bank branch to determine how FLE’s (a) ‘motivations’ of learning orientation, performance-proven orientation, performance-avoid orientation, (b) ‘ability’, that is, self-efficacy and (c) proxy efficacy, that is, confidence in operational manager affects ambidexterity both at individual and work unit levels. The findings propose that learning orientation and self-efficacy are positively related to service–sales ambidexterity. Confidence in the operational manager strengthens the relationship between learning orientation and service–sales ambidexterity but weakens the impact of self-efficacy on service–sales ambidexterity. The results also indicate a positive relationship between service–sales ambidexterity and branch performance.

Sok et al. (2016) examined the simultaneous role of ‘can do’ motivations and ‘reason to’ motivations in defining the mechanism for service–sale ambidexterity. Data were collected from 239 salespersons operating in different B2B pharmaceutical companies. The outcome of the study is in line with that of the study by Jasmand et al. (2012), regarding the positive relationship between locomotion orientation and service–sales ambidexterity, which is positively moderated by high assessment orientation. In addition, both the direct and interactive effects of ‘reason to’ motivations also depict a positive and significant relationship with service–sales ambidexterity. Furthermore, locomotion orientation interacts positively with ‘reason to’ motivations to facilitate service–sales ambidexterity.

Agnihotri, Gabler, Itani, Jaramillo, and Krush (2017) surveyed 219 salespersons and 162 customers across a wide range of B2B companies and industries to investigate the effect of sales–service ambidexterity on salespersons’ role conflict, adaptive behaviour and its impact on customer satisfaction. Their model indicates both positive and negative aspects of the dual-goal pursuit, and service–sales ambidexterity is positively related to adaptive selling behaviour that increases customer satisfaction. On the other hand, it also increases the role conflict among salespersons which shows a negative relationship with customer satisfaction. Customer demandingness augments both adaptive selling behaviour and role conflict among salespersons.

A research by Gabler, Ogilvie, Rapp, and Bachrach (2017) explores how different combinations of customer and selling orientations and their interaction impact FLEs’ pursuit of service and sales-related performance outcomes. Data were collected from a sample of 297 entry-level FLEs of a US firm operating in hospitality industry. The findings assert that employees’ commitment to service quality increases with an increase in customer orientation. Sales performance increases as employees become more sales-oriented. Creativity among employees increases when both customer and selling orientations are high.

Ogilvie, Rapp, Bachrach, Mullins, and Harvey (2017) studied the impact of sales and service climate on the salesperson performance. The sample of 252 salesperson and 68 managers of a firm operating in hospitality industry was taken for the study. Their results call attention towards the fact that with increasing sales climate, the relationship between service climate and customer satisfaction becomes stronger. For helping behaviour, the case is just opposite as with increasing sales climate the relationship between service climate and helping behaviour tends to be weaker. On the other hand, with increasing service climate, the relationship between sales climate and sales efforts becomes weak. Similar results were found in relation to the impact sales climate on sales performance that higher level of service climate weakens the relationship between sales climate and sales performance.

In a study on 163 FLEs of a bank, Faia and Vieira (2017) explored the effect of the control system on the ambidextrous behaviour of the employees. The results regarding the effects' regularity focus on the ambidextrous behaviour are in line with Jasmand et al. (2012) that locomotion orientation is positively related to the ambidextrous behaviour, and this relationship is amplified with higher levels of assessment orientation. In addition, this relationship becomes stronger under behaviour-based control system. Impressions were also found for the positive relationship between the outcome-based control system and the ambidextrous behaviour, which is positively related to both sales performance and customer satisfaction. Customer satisfaction is higher with ambidextrous employees under outcome-based control system. Furthermore, the conditional indirect effect of the control system is stronger on sales performance and customer satisfaction under outcome-based control system.

Affum-osei, Asante, Forkouh, and Abdul-nasiru (2019) collected data from 443 service representatives working in telecom industry in Ghana to understand the impact of career adaptability on the ambidextrous behaviour and service performance. The study also explores (a) the mediating role of the ambidextrous behaviour on the relationship between career adaptability and service performance and (b) the moderating effect of perceived organisational support on the relationship between the ambidextrous behaviour and service performance. Career control, career curiosity, career confidence and career concern were the four resources for career adaptability considered in the research. Out of the four, only two resources of career adaptability, that is, career control and career confidence, were related to the ambidextrous behaviour. For service performance, career concern, career curiosity and career confidence were significant. Although overall global career adaptability relates positively with the ambidextrous behaviour and service performance. Moreover, the ambidextrous behaviour is found to be positively related to employee service performance

and also mediates the relationship between career adaptability and employee service performance. Finally, employees with high perceived organisational support manifest higher levels of the ambidextrous behaviour and service performance.

New and Existing Product Selling Ambidexterity

Van Der Borgh and Schepers (2014) surveyed 104 sales representatives from a European consumer electronics retailer to advance how retail managers can guide salesperson in selling new and existing products to optimise net profits. The findings advocate a negative impact of sales manager's ambidextrous orientation on salesperson's performance in selling new and existing products. The salesperson's performance for new and existing products is found to be in congruent with the sales manager's orientation for new and existing products. The salesperson's degree of task autonomy depicts a strong relationship with the salesperson's performance of new products when compared with the existing ones. This relationship weakens when the sales manager possesses an orientation for new products and becomes stronger when the sales manager is inclined towards selling of the existing products or adopts an ambidextrous selling approach. Performance feedback mitigates the impact of task autonomy on new product performance and amplifies the impact of task autonomy on the existing product performance. Moreover, age strengthens the relationship between task autonomy and performance in selling both new and existing products.

van der Borgh et al. (2017) surveyed 154 sales personnel of a European ICT company to assess how field salespeople can be influenced to proactive selling of new and existing products. Their study undertakes the impact of two different guidance mechanisms: (a) structural, that is, salesperson's organisational identification and (b) situational, that is, sales manager's product-selling ambidexterity. The results indicate a positive effect on both organisational identification and sales manager product selling ambidexterity on the proactive selling of new and existing products. Organisational identification depicts a stronger effect on salesperson ambidexterity than sales management product selling ambidexterity. Sales manager's new products' selling orientation is positively related to the proactive sale of new products by the salesperson. Although it has a negative effect on the sale of the existing products by the salesperson. While the sales manager's orientation towards the existing products is positively related to the proactive sale of these products by the salesperson but do not have any impact on the sale of new products.

Ambidexterity in Acquisition and Retention of Customers

DeCarlo and Lam (2016) conducted three studies to assess the ambidexterity in retention and acquisition of customers. The objectives of their research were to find as to why salespersons develop a preference for farming over hunting and vice versa and to carve out factors to alter this orientation. The first study that consisted of in-depth interviews of seven sales and human resource managers revealed that in personal selling, hunting and farming orientation possess distinct trait-like individual motivations. The traits like risk-taking, desire to win, positive outcome focus and so on were used to denote hunters, whereas routine preference, less aggressiveness and analytical were mentioned for farmers. For the other two studies, the responses were collected from 357 and 200 salespersons, respectively. The findings revealed that salesperson promotion focus is positively related to hunting orientation and salesperson prevention focus is positively related to farming orientation. Interestingly, the salespersons who are satisfied with their jobs are more likely to be the hunters. Moreover, the ambidextrous salespersons produce higher profit margins when they are also highly customer-oriented. High expected hunting success is positively related to hunting orientation but weakens the relationship between promotion focus and hunting orientation. On the other hand, it strengthens the relationship between prevention focus and hunting orientation. Furthermore, acquisition-based compensation plans are positively related to salesperson hunting orientation, and similar to expected hunting success, it attenuates the impact of promotion focus on hunting orientation and amplifies the impact of salesperson prevention focus on hunting orientation.

By collecting data from 174 sales managers of Italian firms through a questionnaire, Nijssen et al. (2017) identified how incentive management, sales training and cross-functional cooperation capabilities assist in creating ambidextrous sales organisations. The findings reveal that among the three constructs, only two of them, that is, sales incentives and cross-functional cooperation, depict a direct effect on salesperson ambidexterity. Furthermore, with strong cross-functional capabilities, sales-training capabilities also show a positive effect on sales organisation ambidexterity.

Lam, DeCarlo, and Sharma (2019) performed two studies to assess how customer base size and customer base newness impact salesperson orientation ambidexterity. The sample size for two studies was 357 and 194, respectively. The findings suggest that with large customer base size, high hunting and farming orientation salespersons ripe higher sales revenue. When the customer base size is small, the mono-dexterous salespersons are better in producing higher sales. Newness in customer base, due to recent hunting success, makes

salesperson to allocate time to farming depicting that hunting is not self-iterative and does not lead to success trap.

Table 2: Frontline Sales Employee Ambidexterity: *Dimensions and Industries*

Ambidexterity Dimensions	Author(s)	Industry
Sale and service	Ahearne et al. (2007)	Pharmaceutical
Sale and service	Jasmand et al. (2012)	Call center
Sale and service	Yu et al. (2013)	Banking
Cross-selling and service	Patterson et al. (2014)	Service
New and existing products	Van Der Borgh and Schepers (2014)	Retail
Sale and service	Yu et al. (2015)	Banking
Sale and service	Sok et al. (2016)	Pharmaceutical
Flexibility and efficiency	Kao and Chen (2016)	Aviation
Sale and service	Agnihotri et al. (2017)	Different industries
Acquisition and retention (hunting and farming)	De Carlo and Lam (2016)	Publicly traded industrial distributed firms
Sale and services	Rapp et al. (2017)	Hospitality
Acquisition and retention	Nijssen et al. (2017)	No specific industry
Service–sale	Faia and Vieira (2017)	Banking
New and existing products	Van der Borgh et al. (2017)	ICT
Service–sales	Ogilvie et al. (2017)	Hospitality
Efficiency and flexibility	Yu et al. (2018)	Hospital
Hunting and farming	Lam et al. (2019)	Publicly traded industrial distributed firms
Service–sales	Affum-osei et al. (2019)	Telecom

MANAGERIAL IMPLICATIONS

The glimpse of the studies exploring ambidextrous selling behaviour of the FLEs offers important suggestions for managerial practices. The employees with high self-efficacy, locomotion orientation and who possess drive to work motivation (Jasmand et al., 2012; Patterson et al., 2014; Sok et al., 2016; Yu et al., 2015) are more conducive to be ambidextrous. While recruiting new employees, the managers could assess the applicant on these factors to recruit those who are basically internally motivated to pursue dual goals. For those employees who are currently working but lack the above-mentioned attributes, training sessions can be organised to infuse the sense of self-efficacy and other motivational orientations among them which will make them more favourable to be ambidextrous.

Apart from that, empowerment, transformational leadership (Yu et al., 2013), LMX (Patterson et al., 2014), confidence in operational manager (Yu et al., 2015) and sales manager orientation (van der Borgh et al., 2017) are some key factors related to sales managers. There is a need to give more authority to sales employees so that they are directed to pursue dual goals, as the sense of being empowered makes the employees more confident. When the managers lead by examples and demonstrate their own prowess in achieving dual goals, it reinforces the employees to carry out the same. Moreover, the managers should maintain a healthy relationship with their subordinates in a way which fuses the employees with confidence in them.

The organisations should create a proactive environment that supports and enhances service and sales goals as employee's behaviours are the outcome of the perception of the organisational climate. When the employees perceive that the organisations support the service–sales goals and rewards for the same, then the sales employees will automatically inhibit the same (Affum-osei et al., 2019; Ogilvie et al., 2017; Patterson et al., 2014). The organisational should motivate their sales employees by providing high incentives in case they achieve dual goals. Different departments in the organisations must work together to synergise the ambidextrous potential of the sales employees (Nijssen et al., 2017).

CONCLUSION

As noted earlier, this article aimed to find out various situations depicting the ambidextrous selling behaviour of the FLEs. After reviewing the articles published on the subject, we found that there are three instances whereby a frontline sales or service employee acts ambidextrously. The first dimension showing ambidexterity is to render service while selling or selling while providing service; most studies done on this dimension advocated for greater

customer satisfaction and increased performance (Jasmand et al., 2012) of employees when employees are ambidextrous. It may be due to the fact that by being ambidextrous, the employees are proactive in understanding their customers and explore for the new ways to delight them. Another ambidexterity situation that is found in the literature is the selling of both new and existing products. It is a situation where a sales representative has to achieve sales targets for both existing and new products; the existing products are well-known in the market with which both the sales representative and customers are familiar; on the other hand, new products are unfamiliar to the market and carry some sort of risk that if they do not perform as per the customer's desire then it may result in customer churn as these products are unproven (van der Borgh et al., 2017). Finally, acquisition of new customer, that is, hunting orientation, and retaining the older ones, that is, farming orientation, depicts the third dimension of selling ambidexterity. The salespersons who carry both these orientations simultaneously generate more profit margins when compared with those who are carry single orientation. The other objective was to find the antecedents of ambidexterity at FLE level which is achieved by identifying two broad categories of antecedents of selling ambidexterity of the FLEs, that is, internal and external antecedents. Internal antecedents represent the internal state of the desire of an individual to be ambidextrous and achieve dual goals, whereas external antecedents are the situational or organisational factors that lead to the ambidextrous behaviour. For the accomplishment of our third objective, which was to identify the areas that are overlooked till date by researchers, a separate section at the end of in this article is devoted as direction for future researches.

Suggestions for future research

To apprehend the ambidextrous behaviour of the FLE, the researches had undertaken to assess the following: performance of ambidextrous employees, impact of leader relationship on ambidexterity, effect of the control system on the ambidextrous behaviour, ambidexterity in selling new and existing products, service–sales, hunting–farming, efficiency–flexibility and so on as the understanding of ambidexterity at an individual FLE level is still emerging and much more is still overlooked. This section is dedicated to providing new areas on which the ambidexterity scholars may work to provide more ‘dexterity’ to ambidexterity at the FLE level.

Ambidexterity and work–life balance

Ambidexterity deals with the simultaneous handling of confronting demands of exploration and exploitation to which Gupta, Smith, and Shalley (2006) claim that it is easier for an

organisation to be ambidextrous when compared to an individual. Hence, to comprehend the impact of the ambidextrous behaviour on individual employee's life, there is a need to analyze the work–life balance of an ambidextrous employee. Moreover, a comparative assessment of the work–life balance of employee with dual orientation (ambidexterity) and with a single orientation may also be made.

Innate and imposed ambidexterity

The work by Kao and Chen (2016) reflected the positive impact of intrinsic motivation on employee ambidexterity, while the studies by Nijssen et al. (2017) and van der Borgh et al. (2017) showed the effect of external factors such as manager's orientation and organisational capabilities on ambidextrous performance of employees; referring to that, a new dimension regarding ambidexterity can come into consideration, that is, 'innate' and 'imposed' ambidexterity, whether ambidexterity is the outcome of the individual internal desire to be multi-tasking or it is something that an employee perceives as a burden that a demanding organisation imposes on them. Further researches will be of great importance in finding the differences in antecedents of the innate and imposed ambidexterity and carving out the measures to effectively manage these two types of ambidexterity.

Customer and organisation orientation

Till date, the ambidextrous behaviour of the employees that is being studied is customer-oriented only, whereby an employee is focused to provide service–sale, selling new and existing products and retaining hunting for customers only. Researches need to be conducted to assess the ambidextrous behaviour of the FLEs with both customer and organisation orientation. For instance, think of a salesperson responsible for selling goods to serve his customer, that is, customer orientation, and with that, he or she is also responsible to collect revenues from the customer, that is, organisation orientation. In both the cases, there lies a difference in the behaviour of the salesperson because at the time of 'selling', the salesperson needs to be soft and exhibit friendly behaviour to the customer; while at the time of 'collection' especially when the customer delays the payment, the salesperson needs to deal him in a different way to recover the money without leading to customer churn.

Growth opportunities for ambidextrous employees

Extant sales literature has witnessed an enhanced performance of ambidextrous employees related to the achievement of sales targets and customer satisfaction, but none of the studies to date has shown how much these ambidextrous employees are more likely to be promoted

by their organisations. The area of study may be whether ambidextrous employees are promoted to higher levels faster than non-ambidextrous employees.

Gender-wise differentiation in ambidexterity

Women in this era constitute for a substantial part of the workforce, and according to a report by the World Bank, the percentage of women in the total workforce was 39.22% in 2018 (World Bank, 2019). Moreover, there are various key positions in an organisation which is reserved for women or they are preferred over men for those positions. With the considerable amount of differences in attitudes, habits, behavior and likes–dislikes of women when compared with men, there is a need to study whether or not there exists a difference in ambidextrous behaviour of women employees when compared with men employees and to envisage for better managing ambidextrous women workforce.

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FROM UNKNOWN ORIGIN TO SHADY DESTINATIONS: WHERE BITCOIN IS HEADING?#

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CA Yash Shah**

INTRODUCTION

Money plays a vital role in human existence, business, organisation and society from an extensive eon of time. It is a universally recognised mechanism of exchange. The social and economic literature is rich in definitions, features, nature and discussion of phenomena related to money.

According to Kiyotaki and Wright (1989), the definition of money follows a long and pervasive tradition in the economic literature according to which money is usually interpreted as a physical good which exists to facilitate trade and to make barter exchange more efficient. Keynes (1936) proposed that money is used to preserve the purchase power across time, to exchange the goods.

In most of the literature, money is defined in terms of what it does rather than what it is. Money is a medium of exchange, liquidity, store of value, means of payment (Yang, 2007) and unit of account (Doepke & Schneider, 2017).

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Yang (2007) highlighted the difference between money as a medium of exchange and means of payment. The medium of exchange refers to an asset which people regularly exchange for other goods and services, whereas means of payment refers to generally accepted methods for the delivery of money. For example, coins or notes are medium of exchange but not the means of payment. Similarly, the most liquid good in any economy is money (Jevons, 1875). Keynes (1936) and Diamond and Dybvig (1983), among others, use liquidity as a synonym for money. It is the common medium through which other goods and services are exchanged (Ostroy & Starr, 1988).

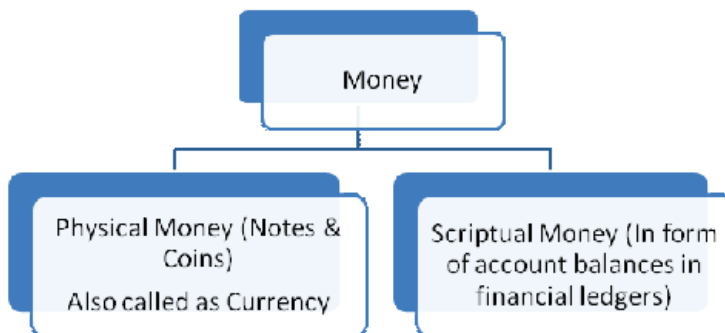
The flow of the concept is as given below:



The currency refers to the money in circulation. It is the physical form of money passed from one hand (owner) to another hand (owner) without any intermediate institutions (Innes, 1914). Money is a broader concept of currency or currency includes only coin and bank notes. It is a mode of payment widely accepted in a particular geography or economic community.

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Exhibit 1: Forms of money



Source: Self-generated

The cryptocurrencies allow for pseudonymous peer-to-peer transactions of digital coins through decentralised payment networks . According to Financial Action Task Force (FATF), a crypto currency is 'a digital depiction of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status in any jurisdiction' . It includes the basic function of currency. The cryptocurrencies pretend an exceptional challenge to individual states by encroaching on a state's right to a monopoly of its own currency, yet offer a taste of a truly global free market as it only required Internet access . More than cryptocurrencies exist with market capitalisation exceeding \$300 billion as on July 2018. On the other hand, the critic of cryptocurrencies argues that privacy protecting means is tremendously useful when engaged in unlawful activities .

Due to the financial crisis of 2007–2008 and the following debt crisis, centralised currency schemes came under pressure and people worldwide began to lose faith in centralised financial institutions and called for decentralisation and alternative currency schemes , and the cryptocurrency provided the answer. If a large company like Facebook does launch a currency to compete with legal currencies, it would rapidly be accepted by its members. Furthermore, the cryptocurrencies are based on blockchain technology which maintains a public ledger of all transactions which is central but distributed of all successful events in a particular chain. Each transaction has a chain of cryptographically signed digital signatures which is irreversible. Each party transmits the digital information to the next party by digitally signing a hash of the prior transaction and the public key of the subsequent owner and adding these to the end of the digital information. Any changes in the block lead to different hash, thus the changed blocks are dropped to avoid forging.

The network of bitcoin transactions between illegal users is three to four times denser than the legal user network, with users much more connected with one another through transactions . The higher density is consistent with illegal users transacting more and using bitcoin primarily as a payment system for buying/selling goods . However, despite these claims, little accurate facts exist concerning the question to what extent cryptocurrency payments originate from illicit activities.

For the purpose of this study, the reference to cryptocurrencies is stated for bitcoins as it is well-known and dominated 47.6% of market capitalisation to the entire value of cryptocurrency (Coinmarket.cap Website).

The overall research question of the study is as follows: Are cryptocurrencies with reference of bitcoin primarily used as a means of payment in criminal activities? We attempt this question by examining the collision of sales on darknet (or dark web) market using the bitcoin as the mode of payment within the blockchain. To understand the scale of the

problem, we took the example of 'Silk Road'. As Silk Road is the first prominent example of darknet market (DNM).

The remaining portion of this study is structured as follows. The next section provides background information of cryptocurrencies and anonymous DNM. The third section presents our data set and outlines our research model. We also highlighted the limitations of secondary data and their reasons. In the last section, we present and discuss the results of our empirical study and provide direction for future research.

BACKDROP OF CRYPTOCURRENCIES AND DARKNET MECHANISM

International Monetary Fund (IMF) defines cryptocurrencies as a subset of virtual currencies which it defines as digital representations of value, issued by private developers and denominated in their own unit of account. The market for cryptocurrencies had skyrocketed in 2017, appreciating more than 1200% . Although bitcoin has no intrinsic value, no exchange value and not a legal value associated with it. At present, there are several hundreds of coins in circulation, and more continue to pop up on a regular basis. The viability of cryptocurrencies is tied to its purpose. The purpose is based on how it is classified in each country. Because bitcoin is a fully decentralised monetary system, with no central authority and regulations. Bitcoin algorithms define how currency will be created, at which pace and at what rate and make it very speculative in nature. The nature of cryptocurrencies makes them an effective alternative of cash to conduct illicit and unlawful activities . The cryptocurrencies can reduce the effectiveness of the monetary policy of central bank.

Table 1: Top Five Cryptocurrencies

Top Five Cryptocurrencies in Circulation				
S. No.	Name	Existence	Market Cap. (in Dollars)	Supply Limit
1	Bitcoin	2008	124.969.093.161	21 million
2	Ethereum	July 2015	57.462.517.858	No max. limit is fixed
3	Ripple	2012	23.790.387.789	100 billion
4	Bitcoin Cash	August 2017	17.159.025.225	21 million
5	Litecoin	October 2011	6.704.709.572	84 million
<i>Note: All the five currencies are decentralised in nature, electronically traded, directly converted into fiat currency and pseudonymous</i>				
<i>Source: CoinMarket Website, 2018</i>				

According to Houben and Snyers' report presented to the EU (2018), bitcoin can be bought with and directly converted into fiat currency on a wide array of cryptocurrency exchanges, for example, Coinbase, Kraken, Anycoin Direct and Lunco.

The 'darknet' is a network like the Internet or a combination of the websites, but that can only be accessed through particular communication protocols (encrypted network) that provide greater anonymity than the Internet (Soska & Christin, 2015). The darknet marketplaces are particularly popular for trading illegal goods and services because the identities of the buyers and the sellers are concealed. The darknet is estimated to contain approximately 30,000 domains (Lewman, 2016). The DNM use technologies such as Tor to hide the identities of its seller and customers.

In a month of January 2016 (one month alone), the total drug revenue on the darknet crypto market was estimated to be \$20 million (Kruithof, Aldridge, Decary-Hetu, & Sim, 2016). Crypto-based drug market, prostitution, trading of personal information, money laundering, trading of weapons, exotic animal, identity theft and other criminal activities are serious concerns for administration around the world.

Furthermore, the risk is mitigated at various levels in this market (Soska & Cristin, 2015). First, there is no physical interaction between transacting parties; second, superior anonymity is guaranteed to compare with other options; third, escrow system helps avoid financial risk; fourth, the Coin Mixing Services such as CoinShuffle make it more attractive as it allows the effective obfuscation of transactions (Ruffing, Moreno-Sanchez, & Kate, 2014).

Evolution of Darknet Market

The term 'darknet' was first coined in 1970 to refer to networks isolated from The Advanced Research Projects Agency Network (ARPANET) which implemented TCP/IP protocol suite (Pace, 2017).

As the inter-computer interaction began to grow, 'a number of isolated, secretive networks started to appear alongside ARPANET'. These networks eventually became the medium of choice for the U.S. Naval Research Laboratory, which introduced a browser called The Onion Router (Gardella, 2006). Tor, as it is called now, 'conceals the location and IP addresses of users who download the software' (McCormick, 2013). Hyperboria is another famous browser as Tor (Hodson, 2014). The DNM is estimated to contain approximately 30,000 domains (Lewman, 2016).

DNMs are structured as e-commerce platform which facilitate the exchange of goods and money among users (buyers and vendors) and possibly generate profit through commission

fees over purchases. After a straightforward registration process (similar to any other website and where no email address is needed), which mainly involves the choice of username and password, it is possible to access the platform and start trading (Guitton, 2013). Registered users can browse the listings of goods which are sold, visit any section of the website and adjust their profile settings according to their preferences (e.g. login method and preferred currency). Moreover, searching products and filtering results are the basic standard features implemented by any platform. Multi-homing is simultaneous participation in multiple (competing) markets or platforms (Martin, 2014). This is a very common practice among darknet users which provide advantage to the seller to associate from one to up to six markets (Nurmi, Kaskela, Perala, & Oksanen, 2017).

The major concerns of the buyers are security of platform, price and quality of goods and support in case of fraud and disputes (Bergman, 2001). Vendors, instead, are likely more interested in market size and volume, competition and room for profits (Barratt, Ferris, & Winstock, 2016). Finally, both the buyers and the vendors are concerned about the risk of being exposed to law enforcement investigations.

Motivations to participation and trading in DNM are varied (Barratt & Aldridge, 2016). Typical participants are young and male (Srnicsek, 2017). While many first-time users are driven by technical interest or simple curiosity. Furthermore, a large share of participants engage in regular trade, sometimes with the intention of resale (Wood, 2017).

A study conducted by CryptoMarket (2018), a leading website on cryptocurrency, mentions in their report that '97.4% of illicit activities using bitcoin originated from DNM place in year 2013–2017 and the drugs are the most popular item for purchase'.

In summary, the dark web encompasses a vast amount of information on the Internet, the majority of which is inaccessible to the average user and now the medium of choice for illegal sites ranging from drug dealing to assassination and terrorism.

Table 2: Timeline of Darknet Market

Year	Major Events	Effect
2011	Silk Route 1.0	
Early 2013	End of Silk Route 1.0; the other major players were Ship Market, Black Market Reloaded	
End of 2013	Silk Route 2.0 started; the major players of market were Pandora, Dream Market, Tor market, Agora, Evolution, etc.	Project 'Black Flag' stole their users' bitcoin and created a panic and increased such tendency in market
November 2014	Closure of the number of darknet market; darknet market was in hidden zone	Operation Onymous by EU, made raid and shutdown various darknet websites including silk road, cloud9, hydra, etc.
March 2015	The evolution market place performed 'exit scam' stealing escrowed bitcoin worth \$12 billion, half of the ecosystem listing share of the time	These exit scam happened on the name of maintenance closure before disappearing
End of 2015	Silk Road 3.0 came into existence with many more sites such as Cloud9, Tor Bazar and Alpha market; AlphaBay was recognised as the largest market	
July 2017	Market experienced largest disruption due to Operation Bayonet with multinational seizure of AlphaBay, Dream market and many more	Operation Bayonet culminated by various law enforcement agency at the same time
2018 onwards	Digital shadow reported that darknet market reportedly started shifting to direct chat options which provides more security to the transaction and the related parties	
<i>Source: Self-generated</i>		

We restricted our study to only Silk Route 1.0 as at that point of time Atlantis and Project BlackFlag were the major players. The reason behind considering only Silk 1.0 is that a major portion of the market was captured by only Silk Route; furthermore, Silk Road focuses on ensuring, as much as possible, anonymity of both the sellers and the buyers than any other website.

Exhibit 2: Silk Road product

The screenshot shows the Silk Road website interface. At the top, there is a search bar and navigation links for messages, orders, and account balance. A left sidebar lists various product categories such as Drugs, Alcohol, Apparel, and Books. The main content area is titled 'browsing drugs' and displays a list of products. Each product listing includes a small image, the product name, price, shipping details, and a vendor's profile picture and name.

Product Name	Price	Shipping	Vendor
1g Platinum Standard Pure Fire MDMA	\$0.222931	ships from: United States ships to: United States	Platinum Standard
5g White Widow	\$0.167716	ships from: Netherlands ships to: Worldwide	DutchMagic
Symbiosis - 1g MDMA - UK First Class	\$0.099036	ships from: United Kingdom ships to: Worldwide	Saint Symbiosis
1G of PURE UNCUT PERUVIAN COCAINE	\$0.294664	ships from: Germany ships to: Worldwide	RedTheBaker
NY Heroin Stamp Bags (Very potent)	\$0.548744	ships from: United States ships to: United States	PCubeSense
LIQUID MUSHROOMS [Pure Psilocybin] No Nausea, Faster Trip, Cleaner Feel Than Dried Shrooms (Click For Details)	\$0.098803		

Source: Silk 1.0 website, 2014

Van Hout and Bingham (2013), who conducted a case study of a Silk Road user's experience, stated that the user described 'relationships between vendors and consumers were ... based on levels of trust and professionalism' with each vendor having their own method of concealment and delivery of products that served as a demonstration of authenticity. This, along with the relative quality of the product, would be factored into a rating system that was reflected on the vendor's profile. From the consumer end, the users generally had an idea of what they were buying and what its value was (Barratt, Lenton, & Allen, 2013).

Furthermore, Silk Road is a pioneer of the consumer rating system and did hold advice on what certain drugs did and what safe practices were when handling them.

Mechanism of the Darknet

The structure of a DNM is quite similar to the structure of any other two-sided platform and enables the vendors and the buyers to trade at low transaction costs (Parker & Van Alstyne, 2013) and can be victims of different forms of deception such as non-delivery of items, product unauthentic, shill bidding and misrepresentation (Grazioli & Jarvenpaa, 2003).

Anonymousness is the basic advantage of darknet which is necessary to maintain at three stages:

a) While ordering products or service: To know the websites' option for ordering any product or service, check the hidden wikis available on Tor browser, which is similar in nature to Wikipedia which gives the detailed list of websites according to your requirement of the product. Tor's anonymisation capabilities help access and operate the hidden sites anonymously which helps in multi-homing of buyers. Further parties use public networks (WiFi) as a safeguard and use VPN sites such as Express VPN, Nord VPN and Tor Guard to remain anonymous.

b) Payment: In case of purchasing any service or item, the buyer has to pay in advance and this payment is done mainly through wallets of bitcoin or other similar cryptographic currencies. The bitcoin wallet is created with dummy names. The services of coin mixture provide additional security. To check the authentication of customers or supplier, there is a chat room service or email service available on the darknet. Thus, it becomes difficult for legal agencies to grab the parties at this stage.

c) Delivery: The product is delivered either online through mail or through courier. This is the difficult aspect for a DNM to maintain in case of physical delivery. There is very less research on the delivery system of physical products sold on the dark net market. It is necessary to understand how sellers on the DNM provide delivery at the customer's doorstep, and at this stage there are chances to be grabbed by the authorities.

There are platform-independent sellers who are active on the DNM who are able to continue sales despite shutdowns (Thijmen, 2018). The platform generates revenues through a commission on transactions and an entrance fee for sellers.

Darknet Market Characteristics

We provide an overview of the types of goods and services being sold in the darknet. There are approximately 220 distinct categories, ranging from digital goods to various kinds of narcotics, pornography or prescription medicine.

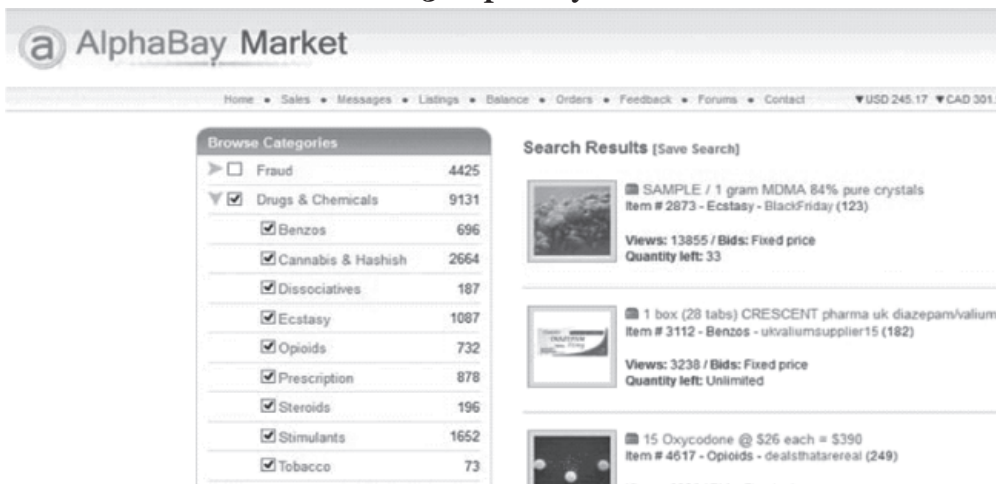
Table 3: Top 10 Items Sold in Silk Route

Category	Item	Percentage
Weeds	3338	13
Drugs	2194	9.3
Prescription	1784	7.3
Benzos	1193	4.9
Books	955	3.9
Cannabis	877	3.6
Hash	820	3.4
Cocaine	473	2.6
Blotter (LSD)	440	1.9
Money	405	1.8

Adapted from: Nicolas Christan (2013)

We assume that the items sold on the DNMs affect the number of total transactions within the bitcoin blockchain. The rational choice theory posits that ‘agents act in their perceived best interest’ (Blume & Easley, 2008) using a mental cost and benefit calculation prior to decision-making (Browning, Halcli, & Webster, 1999). The emergence of the pseudonymous payment system and cryptocurrency bitcoin solves the issue in operating a DNM that protects the true identity of its users (Christin, 2013): a means of payment which cannot be used by law enforcement agencies to easily trace individuals (Soska & Christin, 2015).

Exhibit 3: AlphaBay market



Source: TOR network

Based on the theorem of rational choice theory and nature of the items sold on the DNM, we argue that criminals prefer less identifiable ways to buy illegal items to protect their identity. This is beneficial for both the parties in comparison to conventional means of conducting illegal business.

Janetos and Tilly (2017) in their study found the following three stylised facts: '(i) there is a positive relationship between the price and rating of the seller, (ii) sellers with more reviews charge higher prices regardless of ratings, (iii) low-rated sellers are more likely to exit the market and make fewer sales'.

Furthermore, multi-homing, seller reputation and loyalty are an important aspect of the DNM to be discussed in further research.

DATA SET

We required two sets of data for our study: (a) total value of bitcoin used in Silk Route 1.0, from 2011 to 2014, and (b) the daily number of bitcoin traded and its price.

We primarily focus data collection on 'item pages', that is, pages describing the goods being sold on Silk Road. There are approximately 220 distinct categories, ranging from digital goods to various kinds of narcotics or prescription medicine.

We only consider the data which were presented during the trial of the Silk Road founder (evidence GX940) of USENIX Security Symposium. We directly take these data as there is least chance of misrepresentation in this. We did not consider the data of Atlantis, which was negligible at that time. The second set of data is taken from *data.bitcoinity.org*. This website has data of the number of bitcoin traded on major bitcoin platforms. This is the common source of data for many other research papers.

The major challenge in data collection is to get the price of bitcoin which is slightly varied at different platforms such as Coin base, Bit, BitFinex and Bit/X. They all provide different prices and many of the platforms are introduced at later stage.

RESULTS AND CONCLUSION

As per our data, the total revenue of Silk Road 1.0 was \$214,000,000. These data were extracted by U.S. Government and presented during the hearing of Silk Road 1.0 case. The data were extracted solely from bitcoin transaction logs. During the period of operation of Silk Road 1.0, we analysed the total transaction values of bitcoin through various bitcoin

exchanges. From our estimation, it was around \$3,147,726,191. Hence, it is fair to say that out of total bitcoin transactions, 5.81% of transactions were solely for the purpose of purchasing goods/services from the darknet.

Here, an additional thing which needs to be considered is the coin mixture services. Almost all the transactions, which ended up in the dark web, are routed through the coin mixture services. Now, the above value of \$3,147,726,191 does include transactions such as mixing up the coins and transferring the same would also be considered as transaction. However, the ultimate purpose of most of these kinds of transactions would be purchase of illicit item or service from the darknet, and hence from our point of view these kinds of transactions should also be considered as the darknet transactions. As it is not possible to calculate such transactions and it is not fair to say that all transactions routed through coin mixture services end up in the dark web, we estimated those values by backward integration. About 5.81% of transactions are those which are ended up on the darknet websites. Now, even if such transactions are routed through at least one cycle of coin mixing cycle, there was at least one transaction prior to each transaction, which ended up in the darknet. However, the uncertainty of the figures and the unavailability of the data made it impossible to find the exact figure, and hence, we have taken conservative approach of 5.81%.

It is evident from the data that each and every website on the darknet is accepting bitcoin as its prime currency. Over and above bitcoin, there are other currencies which are mostly based on the blockchain concept. Out of a sample size of 46 websites considered in the study, 5 websites did not mention their method of payment, 1 website provided service free of cost and only 12 websites were expecting currencies apart from bitcoin. Although it is worth mentioning here that even in these 12 websites bitcoin is also available as an option of payment. It is fair to say that out of all websites which have mentioned their payment method, 71% of the websites were exclusively operating only through bitcoin.

Hence, it can be very well said that every transaction done through bitcoin does not end up in the dark web; however, around 75% of transactions, which end up in the dark web, are routed through bitcoin. This creates a question mark on the usage of bitcoin and the basic motive to create a parallel currency which solves the problem of cash management which remains the same. The cryptocurrency does not solve the issue of legal tender; rather, it creates a new issue, that is, criminal usage of cryptocurrencies and its heading towards the new low.

LIMITATIONS

Our study is confronted with several limitations. First, our study focuses on bitcoin as a proxy for the cryptocurrencies. However, there are more than 2000+ cryptocurrencies currently traded in the darknet.

Second, we draw on data of 46 DNMs as a proxy for organised crime that is associated with cryptocurrency usage. It is possible that our analysis did not capture all the relevant criminal usage of the cryptocurrencies.

The third major issue is related to the daily price of the bitcoin. The daily number of bitcoin traded is the multiplied price on that particular date. As there are multiple trading platforms available, there is marginal change in the price of bitcoin at every trading platform. This creates the problem of taking weighted average price for calculation. Hence, we took simple average.

Fourth, the websites which are operating in the darknet are illegal, and hence due to various reasons such as government raids or exit scam, these websites close down on frequent basis and again open themselves with some other name.

Fifth, we are not much clear about the delivery system of the DNM and are not able to find the literature on this aspect of DNM to the best of our knowledge.

FUTURE SCOPE

From a technical standpoint, this work is closely related to rapidly growing literature on measuring the relationship of the cryptocurrencies in cybercrime. The main difference between this work and the related cybercrime literature is the object of the measurements.

Instead of trying to characterise a security attack or the behaviour of an attacker or the part of the system by opening an account on the darknet and conducting a transaction, we simply took the secondary data from the evidence presented by the American Government and bitcoin daily transaction log. This research is based on the past data. Our study has a link with McCoy, Bauer, Grunwald, Kohno, and Sicker (2008), which provided a characterisation of traffic using the Tor network by monitoring a Tor exit node. Different from this research, we do not actually monitor the Tor traffic and instead analyze the data posted to an online marketplace and Silk Road.

Thus, pseudonymous cryptocurrencies such as bitcoin are oftentimes associated with illicit activities such as drug trafficking, arms trade, pornography and other illegal activities. Future work in this area could investigate whether and how the value of goods and services sold on DNMs are associated with the total value of cryptocurrency transactions in the underlying blockchain.

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