

HLIB Research

PP 9484/12/2012 (031413)

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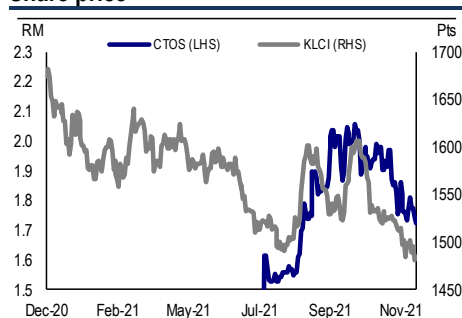
(603) 2083 1729

BUY (Initiate)**Target Price:** **RM2.45****Previously:** **N.A.****Current Price:** **RM1.72**

Capital upside	42.3%
Dividend yield	1.2%
Expected total return	43.4%

Sector coverage: Technology

Company description: CTOS Digital offers credit reporting, software development and digital software related services.

Share price

Historical return (%)	1M	3M	12M
Absolute	219.7	235.3	N.A.
Relative	-8.5	-2.0	N.A.

Stock information

Bloomberg ticker	CTOS MK
Bursa code	5301
Issued shares (m)	2,200
Market capitalisation (RM m)	3,784
3-mth average volume ('000)	17,837
SC Shariah compliant	Yes
F4GBM Index member	No
ESG rating	★★

Major shareholders

Inodes Limited	40.0%
Chung Tze Keong	4.5%
Chung Tze Wen	4.5%

Earnings summary

FYE (Dec)	FY20	FY21f	FY22f
PATMI - core (RM m)	45.5	57.8	72.9
EPS - core (sen)	2.07	2.63	3.31
P/E (x)	83.2	65.4	51.9

CTOS Digital**The credit reporting giant that keeps growing**

We initiate coverage on CTOS with a BUY call and a DCF-derived target price (TP) of RM2.45/share (discount rate: 5.9%, TG: 3.5%). This implies a FY22F P/E of 74x, which is at a premium compared to its global CRA peers' average FY22F and FY23F forward P/E of 34x. This is to reflect its higher EPS growth rates of 27% and 26% in FY21-22F (vs. an average of 12% and 10% for its global peers). We like CTOS due to the following reasons: i) the bright prospects of the ASEAN Credit Reporting Industry; ii) its position as the leading CRA in Malaysia with an estimated market share of 71.2% in 2020; iii) its long-term relationships with its customers, with three decades of history with domestic banks and financial institutions; and iv) the exceedingly high-barrier of entry nature of business.

Robust growth of the ASEAN Credit Reporting Industry. IDC forecasts that the credit reporting industry in the ASEAN region will grow at a CAGR of 10.8% between 2021 and 2025 to RM1.61bn from RM1.07bn in terms of value. This would stem from the CRAs' heightened penetration and usage of credit reporting services in current sectors and further expansion into new verticals such as automotive, healthcare, media, software and professional services, and the public sector in the ASEAN region.

Innovative digital solutions to drive expansion into new verticals domestically. CTOS aims to expand its footprint to new verticals in Malaysia, focusing on the automotive, insurance and the real estate sectors via innovative digital solutions. According to IDC, the total addressable market for the credit reporting industry for the three sectors is set to grow at a CAGR of 67.3%, 43.7% and 43.2% respectively from 2021 to 2025. In terms of combined value, the total addressable market for the credit reporting industry is forecasted to balloon to RM128.9m in 2025 from RM25.1m in 2021, which implies a CAGR of 50.6%.

High stickiness to its customers. In Malaysia since 1992, CTOS has enabled direct integration of its database with the systems of some of the financial institutions which had subscribed to its credit reporting services. With three decades of long-serving history with domestic banks and financial institutions, CTOS' wide array of products and digital solutions, along with its scoring system, allows it to provide a one-stop digital solution for most of the daily operations of the retail and commercial banking industry. This makes its services an integral part of most of its customers' business processes, with reliance and stickiness being developed over a long period of time.

Steady revenue and cash flows from diverse client base with long-term and strong customer relationships. Over the years, CTOS has developed long-term relationships with its customers, including banks, telco companies and other corporate customers. We gather that CTOS' products and services have become an integral part of its customers' business processes, making it difficult for them to switch to solutions offered by another CRA competitor. About 75% of CTOS' Key Accounts customers' revenues are recurring in nature and CTOS has retained 100% of its Key Accounts customers since 2017. CTOS's top 5 customers have been the group's client for a remarkably long period, ranging from 12 to 19 years.

Initiate with a BUY, TP: RM2.45/share. We initiate coverage on CTOS with a BUY recommendation and a DCF-derived TP of RM2.45/share (discount rate: 5.9%, TG: 3.5%). This implies a FY22F P/E of 74x, which is at a premium compared to its global CRA peers' average FY22F forward P/E of 34x. We believe that the valuation premium is justified as we are expecting CTOS to grow faster than its peers, with an FY21-22F growth of 27% and 26% respectively (vs. an average of 12% and 10% for its global peers).

Financial Forecast

All items in (RM m)

Balance Sheet

FYE Dec	FY19	FY20	FY21f	FY22f	FY23f
Cash	6.1	26.4	31.4	43.0	62.8
Receivables	21.4	28.2	32.0	39.2	46.3
Inventories	0.0	0.0	0.0	0.0	0.0
PPE	16.9	16.9	21.0	23.0	26.2
Others	97.8	204.5	304.0	312.6	322.3
Assets	142.2	276.0	388.5	417.9	457.6
Payables	13.6	17.1	19.4	23.8	28.1
Debt	27.6	132.3	0.0	0.0	0.0
Others	22.0	10.8	10.8	10.8	10.8
Liabilities	63.2	160.3	30.2	34.6	38.9
Shareholder's equity	78.9	110.8	353.9	383.1	418.5
Minority interest	0.0	5.0	4.4	0.2	0.2
Equity	78.9	115.7	358.3	383.2	418.7

Cash Flow Statement

FYE Dec	FY19	FY20	FY21f	FY22f	FY23f
Profit before tax	41.2	40.3	60.9	77.6	94.3
D&A	6.3	7.5	8.0	9.2	10.4
Working capital	-3.8	0.7	-1.5	-2.8	-2.8
Taxation	2.5	-2.1	-3.7	-4.7	-5.7
Others	2.6	3.2	-2.2	-9.9	-11.5
CFO	48.8	49.6	61.6	69.4	84.8
Capex	-2.8	-4.7	-12.1	-11.2	-13.7
Others	-56.2	-99.3	-91.9	0.0	0.0
CFI	-58.9	-104.0	-104.0	-11.2	-13.7
Changes in debt	15.8	107.4	-132.3	0.0	0.0
Shares issued	0.0	0.0	220.0	0.0	0.0
Dividends	-21.7	-10.5	-34.7	-43.7	-53.2
Others	11.4	-22.8	-5.5	-2.9	1.9
CFF	5.5	74.1	47.5	-46.7	-51.3
Net cash flow	-4.7	19.7	5.1	11.6	19.8
Forex	0.0	-0.2	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Beginning cash	10.2	5.5	24.9	30.0	41.6
Ending cash	5.5	24.9	30.0	41.6	61.4

Income Statement

FYE Dec	FY19	FY20	FY21f	FY22f	FY23f
Revenue	129.1	140.5	159.5	195.3	230.5
EBITDA	48.8	52.0	74.4	85.5	102.8
EBIT	42.5	44.6	66.4	76.3	92.4
Finance cost	-1.2	-4.2	-5.5	1.3	1.9
Associates & JV	0.8	1.8	7.7	8.6	9.6
Profit before tax	41.2	40.3	60.9	77.6	94.3
Tax	-2.2	-2.4	-3.7	-4.7	-5.7
Net profit	39.0	38.0	57.2	72.9	88.6
Minority interest	0.0	-1.2	-0.6	0.0	0.0
Core PATMI	42.1	45.5	57.8	72.9	88.6
Exceptionals	3.0	6.3	0.0	0.0	0.0
Reported PATMI	39.0	39.2	57.8	72.9	88.6
Consensus core PATMI			55.3	78.6	99.3
HLIB/ Consensus			1.05	0.93	0.89

Valuation & Ratios

FYE Dec	FY19	FY20	FY21f	FY22f	FY23f
Core EPS (sen)	1.91	2.07	2.63	3.31	4.03
P/E (x)	90.0	83.2	65.4	51.9	42.7
DPS (sen)	0.0	0.0	1.6	2.0	2.4
Dividend yield	0.0%	0.0%	0.9%	1.2%	1.4%
BVPS (RM)	0.04	0.05	0.16	0.17	0.19
P/B (x)	47.9	32.7	10.6	9.9	9.0
EBITDA margin	37.8%	37.0%	46.7%	43.8%	44.6%
EBIT margin	32.9%	31.7%	41.6%	39.0%	40.1%
PBT margin	31.9%	28.7%	38.2%	39.7%	40.9%
Net margin	30.2%	27.9%	36.3%	37.3%	38.5%
ROE	53.3%	41.1%	16.3%	19.0%	21.2%
ROA	29.6%	16.5%	14.9%	17.5%	19.4%
Net gearing	27.3%	95.7%	NET CASH	NET CASH	NET CASH

Assumptions

FYE Dec	FY19	FY20	FY21f	FY22f	FY23f
Growth (%)					
Sales Growth	16.9%	8.8%	13.5%	22.5%	18.0%
EBITDA Growth	38.3%	6.7%	43.0%	14.9%	20.3%
EBIT Growth	33.0%	5.0%	49.0%	14.9%	21.2%
PBT Growth	29.7%	-2.2%	51.0%	27.4%	21.6%
Core PATMI Growth	38.0%	8.2%	27.2%	26.0%	21.6%

Company Background

A leading credit reporting agency (CRA) in ASEAN and Malaysia. CTOS Digital Berhad ("CTOS") is a leading regional credit bureau in the ASEAN region, with a presence in Malaysia and Thailand. The group's primary business includes providing credit information, analytics and digital solutions on companies, businesses as well as consumers at various stages of their lifecycle. CTOS' products and services are also widely used by domestic banks, insurance and telecommunication companies, large corporations, SMEs, legal firms and statutory bodies.

Largest credit reporting agency (CRA) in Malaysia. CTOS Data Systems is the largest credit reporting agency (CRA) in Malaysia by virtue of a market share of approximately 67.6% in 2020. This was further increased, by about 3.6% after the acquisition of the entire equity stake in CTOS Basis Sdn Bhd ("Basis"), bringing its domestic market share to 71.2% in terms of revenue. Standing second in line is Experian Information Services (Malaysia) Sdn Bhd ("Experian") with a domestic market share of 17.5% in 2020 – in which CTOS also owns, via a 26% associate stake.

A one-stop digital solutions provider. CTOS provides a wide array of digital solutions to approximately 430 Key Accounts customers in Malaysia (which include banks and large corporates), and approximately 17,000 Commercial customers, primarily SMEs in a wide array of industries. CTOS also has about 1.4 million CTOS ID accounts of Malaysian users, which allow them to access and purchase their own CTOS consumer scores and credit information.

Figure #1 CTOS' Customer Types

Key Accounts	Commercial	Direct-to-Consumer
<ul style="list-style-type: none"> - Approximately 430 of CTOS Data Systems' highest revenue-generating customers and selected customers - Providing digital solutions, including tailored solutions depending on their unique business requirements 	<ul style="list-style-type: none"> - Serves approximately 17,000 customers, including SMEs and other than those in Key Accounts - Providing easy-to-use yet effective credit risk management tools - Broad accessibility and affordability for both business-to-business and business-to-consumers 	<ul style="list-style-type: none"> - Serves Malaysian consumers - Approximately 1.4 million registered users for CTOS ID as at 30 Sept 2021 - Provides credit scores and detailed information including CCRIS - Promote financial literacy and credit awareness, leading to greater credit access - Consumer fraud protection and identity protection

Company

Brief history. CTOS Sdn Bhd was incorporated in 1990 when the group's founders started their credit reporting business of providing fax-based enquiries services for banks in Malaysia. CTOS Data Systems Sdn Bhd was then incorporated in 1992 to directly integrate its database with the systems of some of the financial institutions which had subscribed to its credit reporting services. Since then, CTOS Data Systems has grown to become one of the group's key subsidiaries, accounting for 98.7%, 99.8% and 95.1% of the group's PATAMI in FY18, FY19 and FY20 respectively.

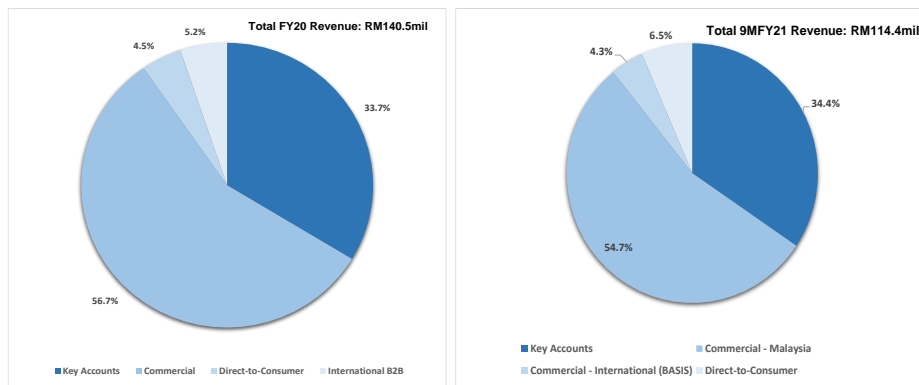
In comes Creador. In August 2014, Inodes (backed by Creador Group, a Malaysian mid-market private equity fund group) acquired a 70.0% equity interest in CTOS. Over the next four years, Inodes continued to increase its stake to 80.0%. Since Inodes' initial investment in August 2014, CTOS has invested substantially in its product development and IT infrastructure to further strengthen its position as the leading CRA and digital solutions provider in Malaysia.

Growth via acquisition. Over the years, CTOS has amassed decent equity stakes in different CRAs in Malaysia as well as in the ASEAN region, such as: (i) a 26.0% equity stake in Experian in July 2019; (ii) 51.0% equity interest in CIBI (held by CTOS SG) in June 2020; (iii) an entire 100% equity interest in Basis in January 2021; and (iv) a total of 8.1% in RAM Holdings (RAM) from CIMB Bank Berhad in July 2021 and December 2021 on two separate occasions.

Expansion into Thailand. CTOS has stepped out of its comfort zone in Malaysia. In end-October 2020, CTOS transformed itself into a regional CRA after it forayed into Thailand by acquiring a 20% associate stake in the nation's largest company information bureau, Business Online Public Company Limited (BOL). In August 2021, CTOS further increased its stake in BOL to 22.65% for RM26.8m. BOL has an estimated

market share of 59.0% in Thailand in terms of revenue in 2020, making it the leading credit information and risk management provider in Thailand. Contribution from its 22.65%-owned BOL will be recognised under share of profits from associates.

Figure #2 Revenue Breakdown in FY20 and 9MFY21 – by Segments



Company

Large credit database on individuals and businesses. CTOS has a large credit database on individuals and businesses in Malaysia, having accumulated over 30 years of data in the industry since its establishment in 1990. As at 31 March 2021, CTOS's database contained approximately 15 million consumer profiles and approximately 8 million company and business profiles. The group sources information for its database from a wide range of public sources, ranging from the local government organisations to other publicly available information such as public court filings, publications and gazettes (Figure 3).

Figure #3 Value added product capacity

Government	Agency	Self-maintained database	Media	International
<ul style="list-style-type: none"> Department of Insolvency Federal Government Gazettes National Higher Education Fund 	<ul style="list-style-type: none"> Central Bank of Malaysia Angkasa (Govt Salary Deductions) Companies Commission of Malaysia (SSM) 	<ul style="list-style-type: none"> CTOS Legal Enhanced Database (CED) CTOS Electronic Trade Reference (eTR) 	<ul style="list-style-type: none"> Newspapers & Media Publications 	<ul style="list-style-type: none"> Basis' network of global data partners

Company

Initial Public Offering (IPO). CTOS made its debut in the Main Market of Bursa Malaysia on 19 July 2021, making it the largest IPO on Bursa Malaysia for the year. The listing exercise raised RM1.2bn, of which RM220m was by issuance of new shares at RM1.10 per share. A total of 23 cornerstone investors subscribed for 54.4% of the institutional offering while retail portion of the IPO was oversubscribed by 27.6x. CTOS plans to use the gross proceeds from the IPO amounting to RM220m, as below:

Figure #4 Plans for IPO Proceeds of RM220.0m

Details of utilisation of proceeds	Estimated timeframe for use from the date of IPO	RM (million)	%
Repayment of bank borrowings	Within three months	155.2	70.5
Defray IPO fees and expenses	Within six months	6.1	2.8
Acquisitions to be identified	Within 36 months	58.7	26.7
Total		220.0	100.0

Company

As at the point of writing of this report, we note that about RM205.9m of the IPO proceeds (or 93.5%) have been utilised, as follows:

Figure #5 Utilisation of Proceeds

Details of utilisation of proceeds	RM (million) - planned	RM (million) - utilised
Repayment of bank borrowings	155.2	155.2
Defray IPO fees and expenses	6.1	6.1
Acquisitions to be identified	58.7	44.6
Total	220.0	205.9

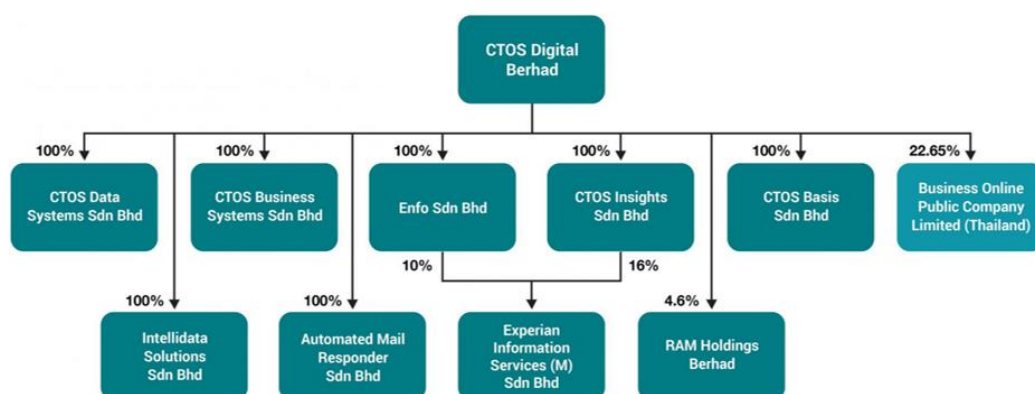
Company

Figure #6 CTOS' key milestones

Year	Key Milestones
1990	Incorporated in Malaysia - to provide fax-based enquiries services for domestic banks
1992	Enabled direct integration of its database with some of the banks' own systems
1994	Incorporated CTOS-EMR Sdn Bhd to serve commercial companies
2007	Launched CTOS Credit Manager
2010	CRA Act enacted in Malaysia
2011	Launched CTOS ID
2013	Launched CTOS Mobile Application
2014	CRA Act enforced CTOS Data Systems was registered as a licensed CRA Inodes invested in the business with a 70.0% equity interest
2015	CTOS Data Systems obtained access to CCRIS data
2016	Launched CTOS Consumer Score in collaboration with FICO Launched CTOS FREE Score campaign
2018	Launched CTOS SecureID and CAD
2019	Acquired 26.0% interest in Experian Launched CTOS SME Score and CTOS eKYC
2020	Acquired 51.0% interest in CIBI (held by CTOS SG) Acquired 20.0% interest in BOL Launched CTOS Portfolio Analytics and Insights and CTOS ID Guard
2021	Acquired 100.0% interest in Basis - expanded range of international business reports Undertook Distribution of CTOS SG and CIBI Went for Initial Public Offering (IPO) in the Main Market of Bursa Malaysia Acquired a 8.1% stake in RAM Holdings Berhad Acquired an additional 2.65% stake in Business Online (BOL)

HLIB Research, Company

Figure #7 Group Structure

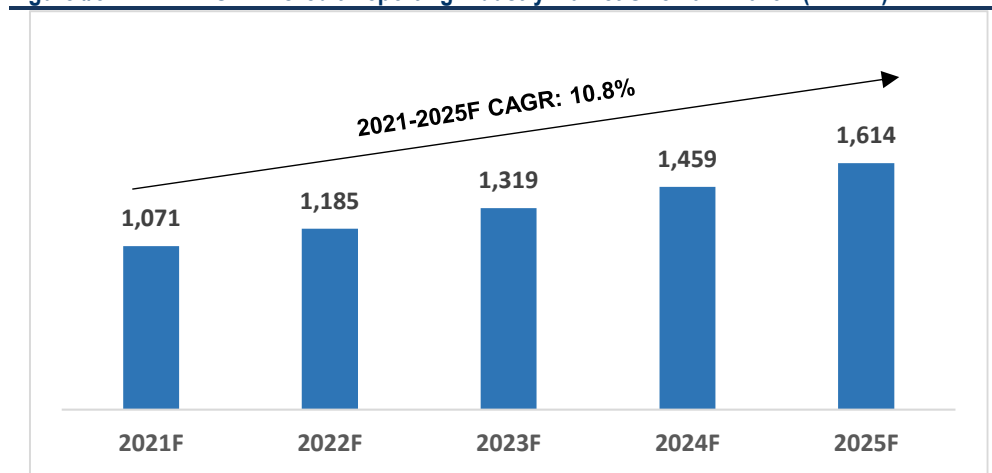


Company

Credit Reporting Industry Outlook

Robust growth of the ASEAN Credit Reporting Industry. IDC Market Research (IDC) – an independent market researcher – is forecasting that the credit reporting industry in the ASEAN region will grow at a CAGR of 10.8% between 2021 and 2025 to RM1.61bn from RM1.07bn in terms of value (Figure 8). This, we believe, stems from the CRAs' heightened penetration and usage of credit reporting services in current sectors, with further expansion into new verticals such as automotive, healthcare, media, software and professional services, and the public sector in the ASEAN region.

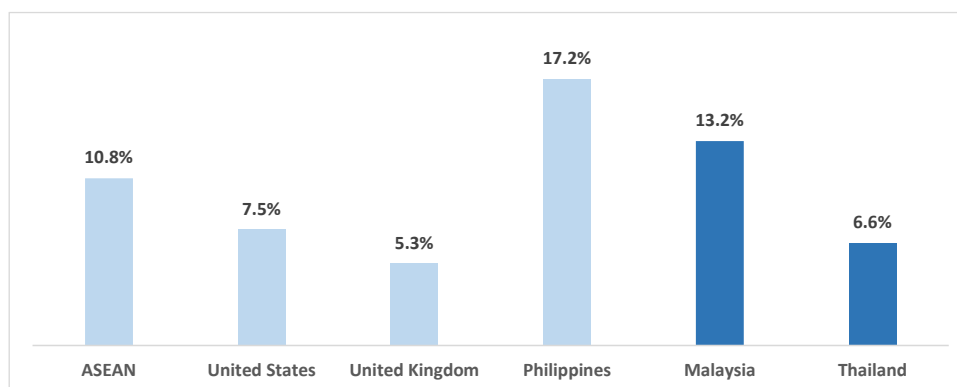
Figure #8 ASEAN Credit Reporting Industry Market Size 2021-2025F (RM mil)



IDC Analysis

Growth in ASEAN to outpace US and UK. The growth of the ASEAN credit reporting industry is expected to outpace that of other more developed and matured markets. For instance, during the same corresponding period of 2021 to 2025, IDC is expecting the credit reporting industry in the United States and United Kingdom to grow at a CAGR of 7.5% and 5.3% respectively. Zooming in on the countries in which CTOS has exposure in, the credit reporting industry is projected to grow at a CAGR of 13.2% and 6.6% in Malaysia and Thailand respectively (Figure 9).

Figure #9 Credit Reporting Industry Market Size growth CAGR across different countries (2021-2025F)



IDC Analysis

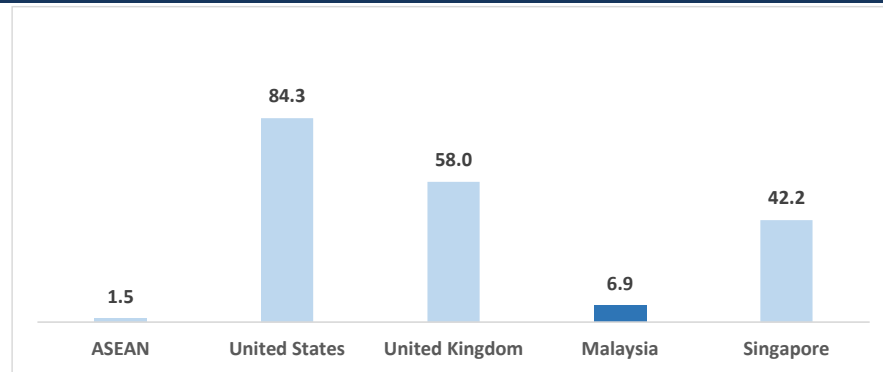
With such promising prospects of the credit reporting in Malaysia and the ASEAN region, we strongly believe that CTOS is poised to ride on the growth of the credit reporting business in the region by virtue of its business operations in Malaysia and strategic investments in Thailand, via BOL.

Enormous untapped market in ASEAN suggests huge growth potential. Despite the large population in the ASEAN region of approximately 669 million people (vs. 331 million in the United States and 68 million in the United Kingdom), the credit reporting industry revenue remains only but a tiny fraction of that of more developed nations on a per capita basis, suggesting huge growth potential in the ASEAN region (Figure 10). The credit reporting revenue per capita in 2020 for the US and UK was RM84.3 and RM58.0 respectively. Taking these two matured markets as a benchmark, ASEAN's credit reporting revenue per capita of RM1.5 is severely undersized – 56x smaller than in the US and 40x less than in the UK. Meanwhile, Malaysia's credit reporting revenue per capita stood at RM6.9, which is about 6x smaller than RM42.2 of neighbour Singapore, 12x smaller than in the US and about 9x smaller than in the UK.

Figure #10 Population of Region vs. Credit Reporting Industry Revenue (2020)

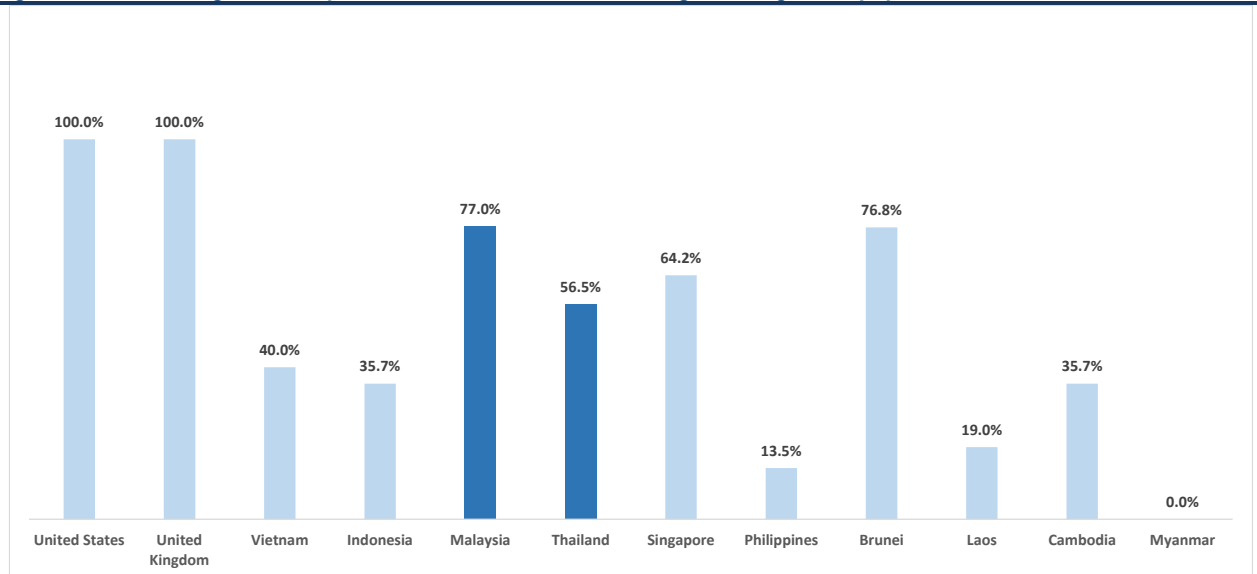
Region	Population (mil)	Industry Revenue (RM mil)	Revenue per Capita (RM)
ASEAN	669	991	1.5
United States	331	27,887	84.3
United Kingdom	68	3,939	58.0

IDC Analysis

Figure #11 Regional comparison of credit reporting revenue per capita (RM)

IDC Analysis

Also, the credit bureau's coverage of general population was significantly lower in Malaysia and in neighbouring ASEAN countries vs. fully-saturated markets i.e. the US and UK, as shown in Figure 12 below.

Figure #12 Regional comparison of Credit Bureau's coverage of the general population

IDC Analysis

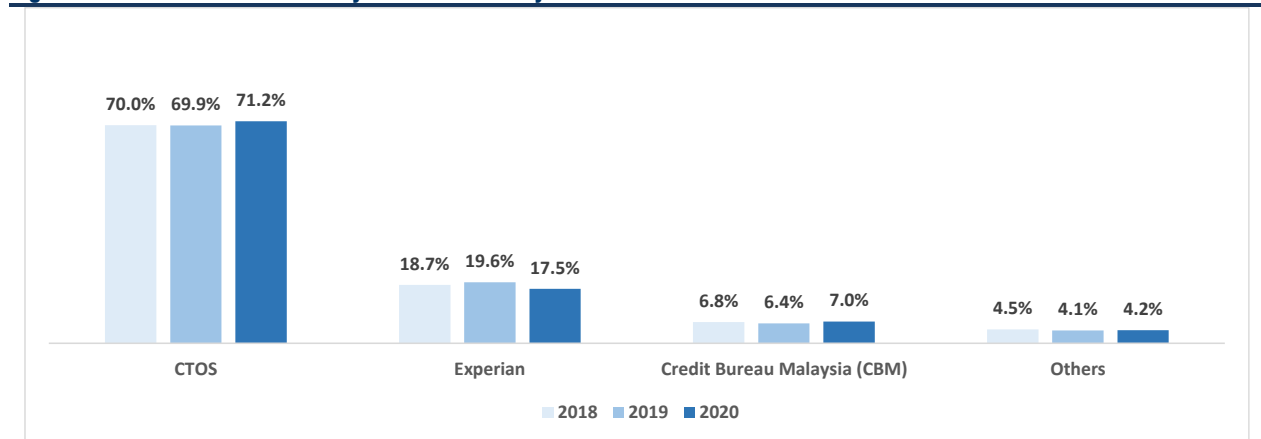
The combined factors of: (i) lower penetration of credit reporting industry; (ii) lower credit reporting revenue per capita; and (iii) smaller credit bureau's coverage of general population in Malaysia and ASEAN vs. that of more developed and matured nations represents an enormous untapped market in both ASEAN and Malaysia, suggesting huge upside potential. This would be underpinned by: (i) increasing financial literacy of the general population; (ii) the growing SME sector; (iii) rising demand for credit by businesses and consumers; and (iv) the introduction of digital banking via traditional financial institutions or new entrants of fintech companies (Figure 13).

Figure #13 Key Drivers impacting the Malaysian Credit Reporting landscape

Financial Literacy	SME Sector	Demand for Credit	Digital Banking
<ul style="list-style-type: none"> Malaysia's growing middle-class population directly correlates to higher education levels, resulting in greater financial literacy among Malaysians By being able to check, assess and track their financial health, consumers are better informed and motivated to maintain good credit records 	<ul style="list-style-type: none"> 98.5% of Malaysia's business establishments are SMEs, collectively contributing RM552.3mil or 38.9% of the country's GDP in 2019. The provision of financial services for this sector is supported by a comprehensive ecosystem that consists of an enabling infrastructure through the establishment of SME-focused banks and various governmental policies 	<ul style="list-style-type: none"> Despite the rising and contracting demand for credit, the demand for credit reporting services is relatively stable In adverse conditions, banks tighten lending policies and restrict new loan approvals, choosing instead to focus on their existing portfolios. The process requires constant credit checks to weed out watchlist accounts and potential impaired loans In better conditions, banks loosen lending policies and will seek to grow favourable portfolios, welcoming new credit applications 	<ul style="list-style-type: none"> Digital banking - from: <ol style="list-style-type: none"> the transformation of traditional financial institutions; or new entrants of fintechs hailing from a variety of industries will start incorporating both full-fledged and micro-loans Growing credit volumes bode well for the credit reporting industry

Company

Market share of CRAs in Malaysia. In Malaysia, CTOS Data Systems is the largest CRA by virtue of an approximate 67.6% market share in 2020. This was increased further by 3.6% after the acquisition of the entire equity stake in Basis, bringing its domestic market share to 71.2% in terms of revenue. Standing second in line is Experian (in which CTOS also owns via a 26% associate stake) with a domestic market share of 17.5% in 2020.

Figure #14 Market share by revenue in Malaysia 2018-2020

IDC Analysis

Investment Merits

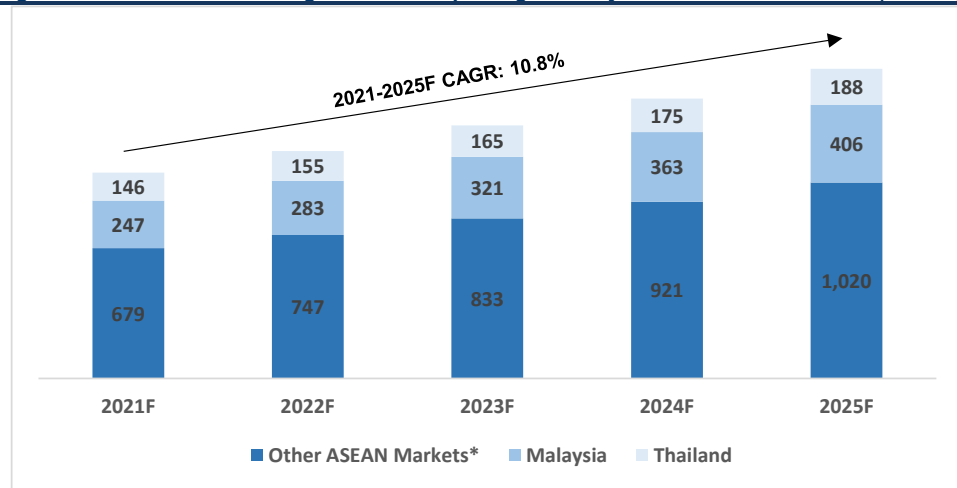
The bright prospects of the credit reporting industry in ASEAN and Malaysia. IDC is forecasting that the credit reporting industry in the ASEAN region will grow at a CAGR of 10.8% between 2021 and 2025 to RM1.61bn from RM1.07bn in terms of value (Figures 8 and 16). This, we believe, stems from the CRA's heightened penetration and usage of credit reporting services in the current sectors under coverage, which will also expand further into newer verticals such as automotive, healthcare, media, software and professional services, and the public sectors in the ASEAN region.

Meanwhile, IDC is also projecting that the credit reporting industry in Malaysia to grow at an even faster rate, i.e. at a CAGR of 13.2% from 2021 to 2025 (to RM406m from RM247m in terms of value) – Figure 17. This will be predominantly supported by the expanding financial literacy of the population, the growing SME sector and the increasing demand for credit by both businesses and consumers alike.

During the same corresponding period of 2021-2025F, IDC forecasted that the 13.2% CAGR of Malaysia's credit reporting industry would be superior to that of Thailand (CAGR of 6.6%), and other ASEAN markets (CAGR of 10.8%). Note that the other ASEAN markets include Brunei, Cambodia, Indonesia, Laos, Myanmar, the Philippines, Singapore and Vietnam combined.

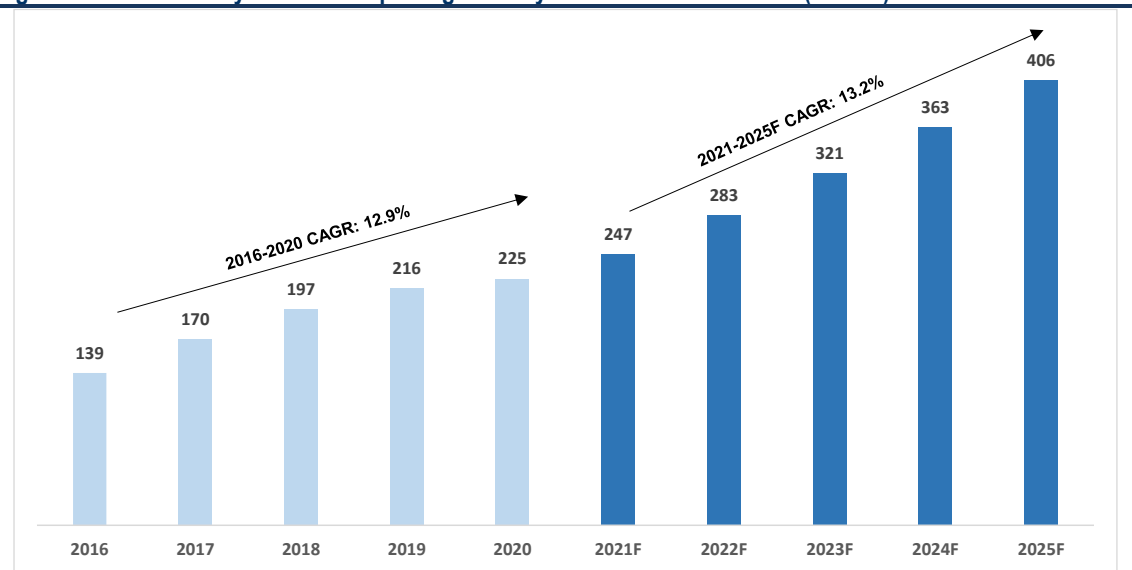
Historically, Malaysia's credit reporting industry increased at a CAGR of 12.8% from 2016 to 2020A (from RM139m to RM225m in terms of value).

Figure #15 ASEAN Region Credit Reporting Industry Market Size 2021-2025F (RM mil)



IDC Analysis

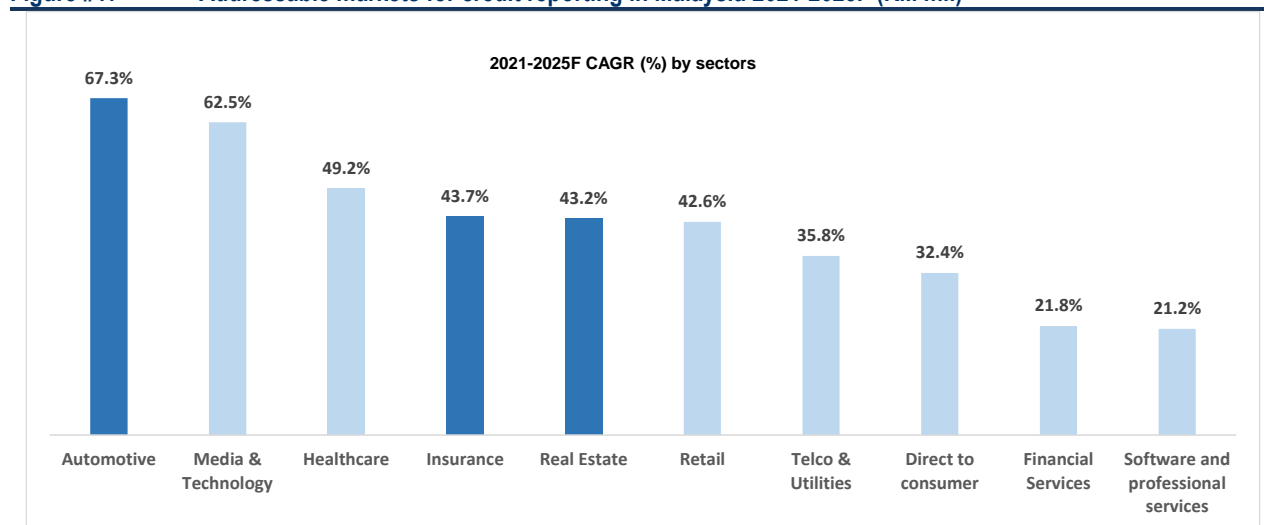
Figure #16 Malaysia Credit Reporting Industry Market Size 2021-2025F (RM mil)



IDC Analysis

Innovative digital solutions to drive expansion into new verticals domestically. CTOS aims to expand its footprint to new verticals in Malaysia, focusing on the automotive, insurance and the real estate sectors via innovative digital solutions. According to IDC, the total addressable market for the credit reporting industry for the three sectors is set to grow at a CAGR of 67.3%, 43.7% and 43.2% respectively from 2021 to 2025 (Figure 18). In terms of combined value, the total addressable market for the credit reporting industry is forecasted to balloon to RM128.9m in 2025 from RM25.1m in 2021, which implies a CAGR of 50.6%.

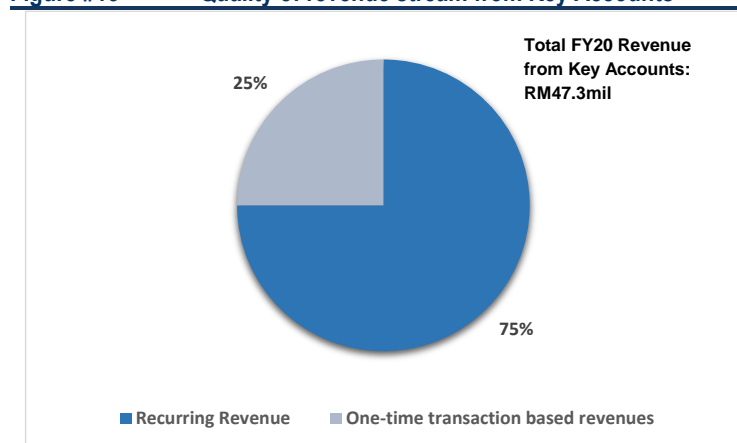
Figure #17 Addressable markets for credit reporting in Malaysia 2021-2025F (RM mil)



Company

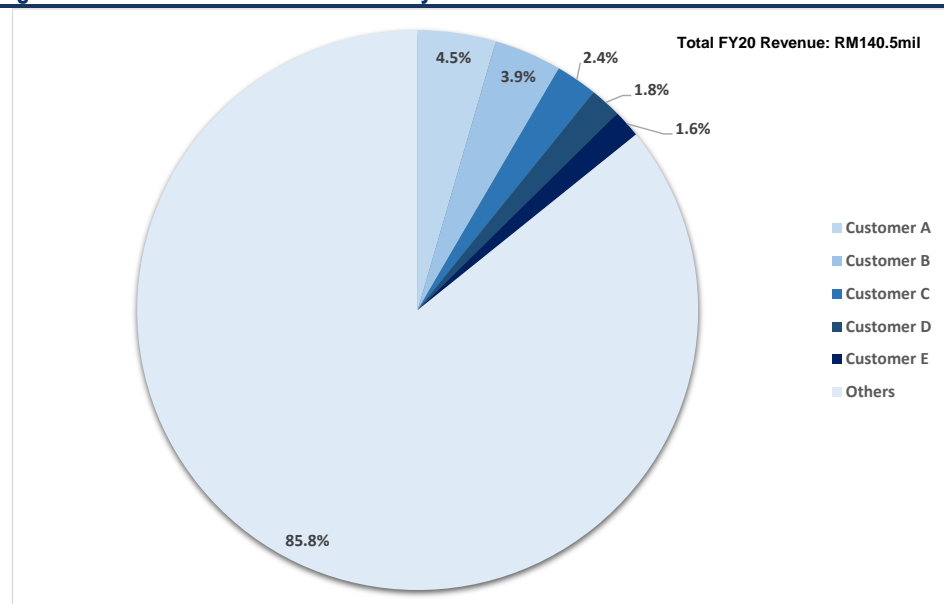
Steady revenue, income stream and cash flows from diverse client base with long-term and strong customer relationships. Over the years, CTOS has developed long-term relationships with its customers, including banks, telco companies and other corporate customers. We gather that CTOS' products and services have become an integral part of its customers' business processes, making it difficult for them to switch to solutions offered by another CRA competitor. We understand that about 75% of CTOS' Key Accounts customers' revenues are recurring in nature. CTOS is proud that it has retained 100% of its Key Accounts customers since 2017.

Figure #18 Quality of revenue stream from Key Accounts



Company

To further sweeten the deal, we note that CTOS' revenue streams are distinctively diversified in a large pool of clientele, reducing the group's reliance on any one major customer. For instance, in FY20, CTOS' top five customers contributed to only 14.2% to the group's top line. No single customer contributed to more than 5% of CTOS' revenue in FY20. We also understand that each of these five customers has been CTOS' client for a remarkably lengthy period, ranging from 12 to 19 years (Figure 20).

Figure #19 Revenue Breakdown by Customer in FY20

Company

Figure #20 CTOS' top 5 customer relationships

Customer	Length of Relationship (years)
Customer A	19
Customer B	19
Customer C	20
Customer D	19
Customer E	12

Company

High barrier to entry to the credit reporting industry. The credit reporting industry in Malaysia has an immensely high barrier to entry. This is largely due to the fact that CRAs operate in a highly regulated environment, hinging on the scope of the CRA Registrar, which is under the purview of the Ministry of Finance. Also, we understand that it is necessary for a CRA to have reliable access to a substantial amount of database involving credit, demographic and other consumers and business information. According to CTOS, it is challenging to obtain access and approval from the necessary governmental agencies and other data sources. Due to the high barrier of entry to the CRA industry, there has only been one new entrant in the past 10 years, i.e. CRIF Omesti Sdn Bhd.

To ride on the growth of local digital banking space. Bank Negara Malaysia (BNM) is looking to roll out five digital banking licenses in 1QCY22 to hasten the penetration of innovative banking technology and boost financial inclusion by targeting the underserved and unserved banking population. As per what we gather, digital banks would be 90% cheaper to operate than traditional banks due to the fact that there will be no physical branches and lower labour costs – meaning that they can easily offer low-cost financial services to lower income groups.

SMEs which contribute to about 50% of Malaysia's GDP, would be one of the largest beneficiaries of digital banking. Digital banks is also expected to be more borrower-centric with more tailored customer solutions, faster approvals and disbursement of funds, simplified lending management and competitive rates.

We believe this would also ultimately benefit CTOS from two perspectives: (i) greater penetration into the local credit reporting market with more credit reporting assessments required for lending to the underserved and unserved banking population; and (ii) increased volume with faster approvals and disbursement of funds from digital banks.

High stickiness to its customers. In Malaysia since 1992, CTOS has enabled direct integration of its database with the systems of some of the financial institutions which had subscribed to its credit reporting services. With about three decades of long-serving history with domestic banks and financial institutions, CTOS' wide array of products and digital solutions, along with its scoring system, allows it to provide a one-stop digital solution for most of the daily operations of the retail and commercial banking industry. This makes its services an integral part of most of its customers' business processes, with reliance and

stickiness being developed over a long period of time.

CTOS collates and provides credit reports and summaries on individuals and corporates that detail their credit history for the past 24 months, legal proceedings, company ownership and directorship, and even testimonies from companies that they have business dealings with, making its service an integral part of its customers' day-to-day decision making. CTOS has developed a fully digitalised platform for end-to-end credit management which provides customers with an automated and seamless user experience. Also, Figure 22 below shows the comparison between the range of products and services offered by CTOS against its direct peers in the market.

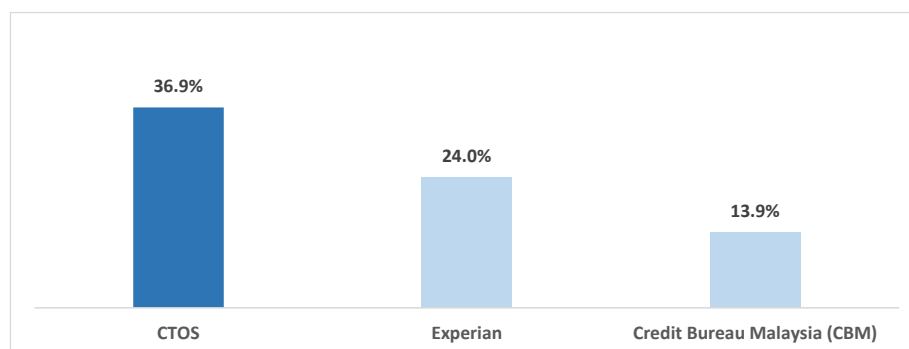
Figure #21 Product Offering Range of CRAs (CTOS vs competitors)

	Services Provided	CTOS	Credit Bureau Malaysia (CBM)	Experian	CRIF	Dun & Bradstreet	FIS Data Reference
Core Credit Services	Access to CCRIS	★	★	★			
	Credit Scoring	★	★	★			
	Credit Rating	★	★	★	★	★	
	Consumer Credit Report	★	★	★			★
	Commercial Credit Report	★	★	★	★	★	★
	- Business Information Report	★	★	★	★	★	★
	- Credit Monitoring Service	★	★	★			
	- International reports	★		★	★	★	
Key Value-Added Services	Business Analytics	★	★	★	★	★	
	Fraud Prevention	★					
	Fraud Monitoring	★		★			
	Scoring/Rating Validation Services	★	★	★			
	Credit Decisioning & Analytics	★		★	★		
	Digital Onboarding (eKYC)	★		★	★		
	Credit Risk Management	★		★		★	
	Credit Comparison Site	★		★			
	Identity Theft Protection	★		★			
	Tenant Screening	★					

Company

Superior profit margins vs. peers. In FY20, CTOS posted revenue of RM140.5m, gross profits of RM121.4m and an EBITDA of RM52.0m. These translate into a gross profit margin and an EBITDA margin of 86.4% and 36.9% respectively. Benchmarking against domestic peers, CTOS has the highest EBITDA margin in the industry among Malaysia's top three players i.e. Experian and Credit Bureau Malaysia (CBM) at 24.0% and 13.9% respectively (Figure 15). CTOS has attributed the superior profitability margins to several key reasons: (i) higher operational efficiency; and (ii) strong operating leverage underpinned by the group's highly scalable data and credit management ecosystems. As of the latest financial results (30 September 2021), CTOS's EBITDA margins continued to improve – to 42.1% in 9MFY21.

Figure #22 EBITDA margins comparison among the top three CRAs in Malaysia



IDC Analysis

Strong and experienced management team with a proven track record. CTOS has a strong team of personnel on board, with a management team that has extensive experience in the credit reporting and other related industries globally. This can be seen from their proven track record of successfully developing and operating new digital solutions over the years, as well as executing highly lucrative acquisitions.

Dennis Colin Martin, the group's CEO and the face of CTOS has more than 20 years of experience in the credit reporting industry, including leading roles at Experian Asia Pacific Pte Ltd and Dun & Bradstreet (New Zealand) Limited, a credit bureau based in Australia and New Zealand. Prior to his career in the credit reporting industry, he has worked for more than 15 years in the banking industry, including with the Bank of New Zealand (now part of National Australia Bank). Martin is currently assisted by group CFO Chen Thai Foong, CEO of CTOS Data Systems Chin Kuan Weng and COO of CTOS Data Systems Tracy Gan (Figure 23).

Figure #23 Key Senior Management Team

Position	Name	Experience
Group CEO	Dennis Colin Martin	<ul style="list-style-type: none"> - Over 20 years of experience in the credit reporting industry - Previously with Experian Asia Pacific Holdings Pte Ltd, Dun & Bradstreet, Baycorp Advantage and Bank of New Zealand (now part of National Australia Bank)
Group CFO	Chen Thai Foong	<ul style="list-style-type: none"> - Over 32 years of experience in finance and treasury - Previously held CFO positions in DHL Express (M) Sdn Bhd and Taylor's Education Sdn Bhd
CEO of CTOS Data Systems	Chin Kuan Weng	<ul style="list-style-type: none"> - Over 25 years of experience in helming senior leadership roles in business, sales and operations for multinationals and local corporates - Previously COO of Credit Bureau Malaysia (CBM)
COO of CTOS Data Systems	Tracy Gan Jo Lin	<ul style="list-style-type: none"> - Over 23 years of experience in operations - Previously with e-Pay (M) Sdn Bhd, TIME dotCom Berhad and Maxis Berhad
Group Head of Risk & Business Compliance	Lim Sue Ling	<ul style="list-style-type: none"> - Over 15 years of experience in regulatory compliance and risk management of the credit bureau business and oversees all compliance related to CTOS

Company

Risks

Losing access to external data sources. CTOS depends on a continued access to and receipt of data from external sources, including data obtained directly or indirectly from its customers, strategic partners and various government and public record repositories such as CCRIS and CCM in Malaysia; Thailand Department of Business Development (DBD) and Thailand Legal Execution Department (LED) in Thailand. The group's data sources and providers could stop providing data in an untimely manner or increase prices for their data. If access to its external data sources is reduced or if such data becomes more expensive to obtain, CTOS' ability to provide its digital solutions could be negatively impacted and this would affect its reputation, business and operations.

Pioneer status tax relief extension not approved. CTOS Data Systems obtained its first CRA certificate on 15 April 2014. CTOS Data Systems then moved on to obtain its MSC Malaysia status from Malaysia Digital Economy Corporation (MDEC) on 9 November 2016 and the pioneer status from the Ministry of International Trade and Industry (MITI) on 8 December 2017. Under the pioneer status incentives, CTOS Data Systems is entitled to a 10 year (5+5) tax exemption for the period from 9 November 2016 to November 2026. The tax exemption for the first 5 years (till November 2021) has already been granted, with the possibility of another 5 year extension period – pending MDEC's approval.

CTOS has already filed in to MDEC for the continuation of the tax incentives in the transitional period and the renewal of CTOS Data System's pioneer status for an extended relief period for another five years until November 2026, pending approval from the authorities. If the tax relief is not extended, we think that CTOS would be taxed under a statutory corporate tax rate of 24%, compared to <7% for the past 3 years in FY18-FY20.

Risk of cyberattacks. CTOS operates in an environment of significant risks in cybersecurity incidents. Cyberattacks could result in unauthorised third parties obtaining access to confidential information, manipulation, destruction or dissemination of data, and the disruption of the group's systems. All these may lead to potential regulatory and legal proceedings that could result in a material loss of business / harm CTOS's reputation.

While CTOS and its associates (Experian and BOL) have implemented cybersecurity measures to protect credit information and personal data in accordance to the law, any failure by the group to comply with such data protection requirements may subject CTOS to penalties, regulatory scrutiny and in the worst case, license suspension and additional liability. The group may also incur additional costs to maintain and improve compliance.

Termination of services by long-term customers. CTOS has long-term relationships with numerous Key Accounts and Commercial customers. Its Key Accounts customers may terminate their licenses of CTOS's digital solutions upon advance written notice (typically ranging from one month to three months), and this provides customers with the opportunity to renegotiate their contracts or award more business to competitors. Similarly, CTOS' Commercial customers may also terminate their CTOS Credit Manager subscriptions upon advance written notice (typically 30 days). If the group's customers terminate or choose not to continue using its digital solutions, CTOS' business and profitability may be affected.

Reliance on third-party technology partners. CTOS relies on third-party technology partners, suppliers and vendors that have proprietary technologies and extensive knowledge of its systems and operations. CTOS' operations and business could be impacted if the group does not successfully manage or maintain relationships with these third parties or if they do not perform according to agreed-upon service levels. The loss of these third-party technology partners, suppliers or vendors could negatively affect CTOS' ability to maintain and improve its systems if the group is unable to replace them in a timely manner.

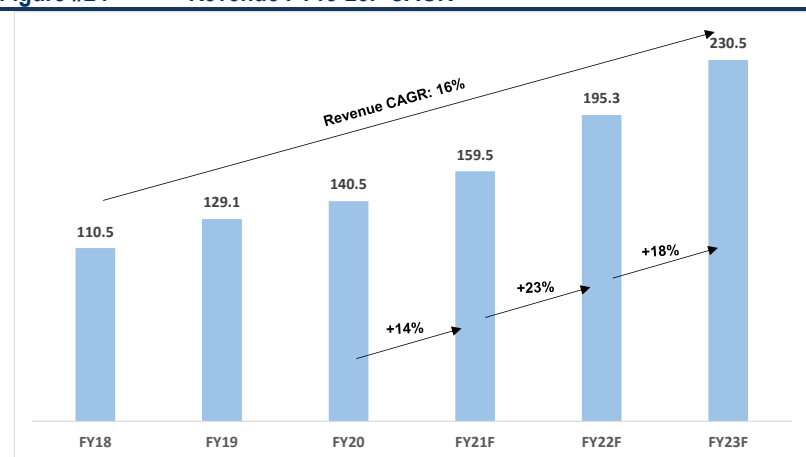
Intellectual property infringement. The credit reporting industry is subject to risks of intellectual property litigations such as copyright or patent infringement. Any such claims, regardless of merit, could be costly and time-consuming if asserted against CTOS. Intellectual property infringement claims could subject CTOS to liability for damages and restrict the group from providing services or require changes to certain of its digital solutions.

Financials

Revenue to grow at a CAGR of 16% from FY18 to FY23F

We project CTOS' revenue to grow at a CAGR of 16% from FY18 to FY23F (Figure 24), largely driven by: (i) fast-growing commercial and direct-to-consumer segments as the group aims for increased penetration into SMEs and the mass consumer market by virtue of innovations of new and creative digital solutions, general improvement in financial literacy and credit awareness (leading to greater credit access), in addition to heightened mindfulness to the increasing consumer fraud and the need for identity protection; (ii) consolidation of the results of Basis in FY21F following CTOS' acquisition of its entire equity interest in January 2021; and (iii) ending of the BNM's free waiver to its CCRIS (Central Credit Reference Information System) database in end-2021 (albeit no exact date provided), which in turn will allow CTOS to revert to its previous fee pricing. We understand that the fee reduction amounted to c.RM7.3m in FY20.

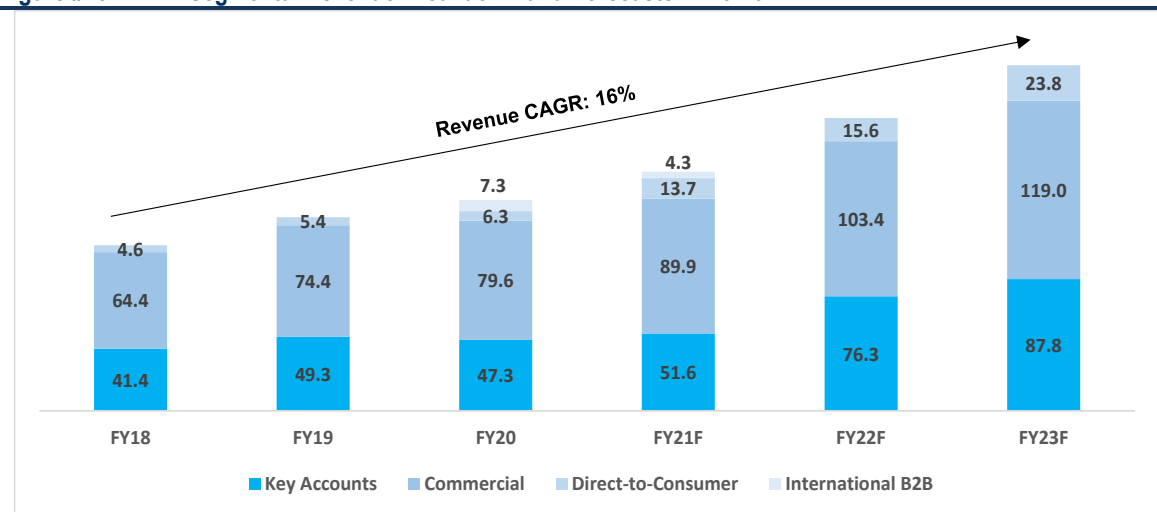
Figure #24 Revenue FY18-23F CAGR



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Going forward, we understand that there will be no more contribution from the International B2B segment as CTOS has carved out its 51%-owned CIBI and CTOS SG in June 2021. Meanwhile, contribution from its 22.65%-owned Business Online Public Company Limited ("BOL"), will be recognised under share of profits from associates.

Figure #25 Segmental Revenue Breakdown and Forecasts FY18-23F



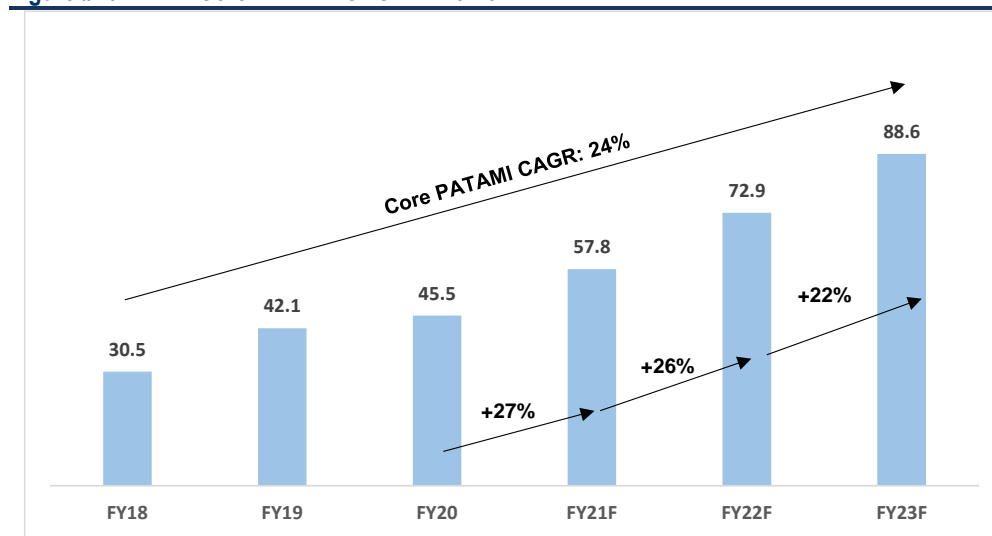
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Core PATAMI to grow at a CAGR of 24% from FY18 to FY23F

CTOS' core PATAMI grew by 38% in FY19 and 8% in FY20 to RM42.1m and RM45.5m respectively. The RM40.1m core PATAMI was adjusted for: (i) RM0.9m one-off acquisition-related costs; (ii) RM1.3m losses from CIBI and CTOS SG (which have been carved out); (iii) RM4.0m expenses on bank borrowings; and (iv) RM3.3m unrealised foreign exchange gains on term loans. We note that the spike in finance costs is due to higher bank borrowings to finance the group's acquisitions, including BOL in FY20.

We project CTOS' core PATAMI to grow by 27%, 26% and 22% to RM57.8m, RM72.9m and RM88.6m for FY21-23F respectively, representing a CAGR of 24% (Figure 26), largely driven by: (i) better economies of scale translating into improved margins over the years; (ii) increased penetration into addressable markets and new verticals; (iii) more product mixes (i.e. eKYC); (iv) organic general growth of the domestic and ASEAN credit reporting industry; and (v) earnings growth via acquisition.

Figure #26 Core PATAMI CAGR FY18-23F



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Tax incentives from MSC Malaysia pioneer status. CTOS Data Systems, which accounted for 98.7%, 99.8% and 95.1% of the group's revenue in FY18-20, was a beneficiary of the tax incentives from MSC Malaysia pioneer status – as aforementioned earlier in the report. This has resulted in the group's tax expense of 6.7%, 5.4% and 5.8% for FY18-20 respectively. However, we highlight that Basis (which CTOS has fully acquired in January 2021), does not hold an MSC Pioneer certificate. Hence, the unit is subject to a normal statutory tax rate of 24.0% in Malaysia, and CTOS expects this to marginally increase the group's tax expense from FY21 onwards. We are forecasting the group's consolidated tax rate to be at 6.0% from FY21 to FY23F.

Dividend payout policy of 60%. CTOS aims to pay out 60% of its profits as dividends annually. This is after the consideration of annual working capital and capital expenditure. Based on our projection, a 60% dividend policy translates into a payout of RM34.7m, RM43.7m and RM53.7m respectively for FY21-23F. This translates into a dividend yield of 1.2-1.4% in FY22-23F.

Sturdy balance sheet. As at 31 Dec 2020, CTOS was in a net debt position of RM105.9m, which translates into a net gearing of 0.96x. Post-IPO and with our expectations of a strong operating cash flow in FY21-23F, we are projecting CTOS' net cash pile to grow to RM62.8m as at end-FY23F, underpinned by a forecasted operating cash flow of RM84.8m and PATAMI of RM88.6m in FY23F. This would result in an enlarged shareholders' fund of RM418.5m as at end-FY23F.

Updates on recent state of affairs – CCRIS suspension issue and earnings impact

CCRIS suspension by BNM. On 1 October 2021, Bank Negara Malaysia (BNM) has temporarily suspended its CCRIS services to all CRAs in Malaysia. This came on the heels of threats of potential cyber-attacks on CRAs found on the dark web. Industry wide, BNM has cut off access to CCRIS to all CRAs until they can demonstrate the required level security setup and make sure that its systems are safe. BNM requires all the CRAs to conduct a review of their data assets and infrastructure with independent cybersecurity experts.

No breach of CTOS' data assets. CTOS has submitted a compromise assessment to BNM on 20 October 2021, confirming that the group's data assets are secure and there were no indications of any data breaches.

Resumption of CCRIS access and earnings impact. On 17 November 2021, CTOS announced that it has received a confirmation from BNM that its access to CCRIS has been restored. Sensitivity wise, for every month of prolonged CCRIS suspension, it would impact the group's revenue by RM4m and PATAMI by RM1.6m – which is 3% of FY21F PATAMI, based on our estimates.

Valuations and Recommendation

DCF. We value CTOS based on Discounted Cash-Flow to Equity (DCF) method which allows us to capture the cash-generative nature of its business. Our DCF model that uses a discount rate of 5.9% generates an NPV of RM5.38bn for CTOS or RM2.45/share. At the valuation of RM5.38bn, CTOS trades at an implied 74x FY22F PATAMI and 61x FY23F PATAMI, which is at a premium to a 34x FY22F P/E and 31x FY23F P/E average of its global listed peers.

The valuation premium to its global listed peers are to reflect:

- 1) CTOS' higher PATAMI growth rates of 27% and 26% in FY21-22F (vs. an average of about 12% and 10% in the same corresponding periods for its global peers respectively) based on our projections; and
- 2) The scarcity premium of a prominent, renowned and investible listed CRA in Malaysia;

Our DCF valuation for CTOS premises on the following key assumptions:

- 1) Beta of 0.97x – which is equivalent to the average beta of its global listed peers.
- 2) Our house view of Malaysia's market risk premium of 6.0%.
- 3) A risk-free rate of 3.56%, which is in line with the 10-year Malaysian Government Securities (MGS).
- 4) A terminal growth rate of 3.5%.

Figure #27 Sensitivity of CTOS's NPV to discount rates

Discount rate (%)	Net Present Value (NPV) (RM'mil)	NPV/share (RM)	Implied FY22F P/E (x)	Implied FY23F P/E (x)
5.3%	7,426.4	3.38	101.8	83.8
5.5%	6,635.0	3.02	91.0	74.8
5.7%	5,987.9	2.72	82.1	67.5
5.9%	5,383.6	2.45	73.8	60.7
6.1%	4,993.4	2.27	68.5	56.3
6.3%	4,603.2	2.09	63.1	51.9
6.5%	4,265.4	1.94	58.5	48.1

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Figure #28 Global Peer Comparison

Bloomberg Ticker	Company	Price (USD)	Mkt Cap (USDmil)	Adjusted Beta	EPS		EPS growth (%)		P/E (x)		P/B		Div. Yield (%)	
					CY21	CY22	CY21	CY22	CY21	CY22	CY21	CY22	CY21	CY22
FICO US EQUITY	Fair Isaac Corp	491.7	11,303.2	1.26	12.5	14.4	28%	15%	30.9	26.5	43.6	26.7	nm	nm
VRSK US EQUITY	Verisk Analytics Inc	173.0	34,635.2	0.94	5.3	6.0	5%	13%	40.7	35.9	9.3	9.1	0.7	0.7
EXPN LN EQUITY	Experian PLC	38.1	43,143.6	0.99	1.0	1.2	-1%	20%	38.7	33.5	10.3	8.9	1.1	1.5
TRU US EQUITY	TransUnion	108.1	21,963.1	1.04	3.8	4.2	26%	10%	30.4	27.5	6.8	5.8	0.3	0.3
DNB US EQUITY	Dun & Bradstreet Holdings Inc	22.0	8,231.4	0.86	1.1	1.1	13%	5%	17.8	17.0	2.7	2.5	0.0	4.5
EFX US EQUITY	Equifax Inc	236.4	35,002.2	0.91	7.6	8.8	9%	16%	37.8	32.6	7.5	6.6	0.7	0.7
GBG LN EQUITY	GB Group PLC	12.8	2,348.3	0.82	0.2	0.2	2%	-9%	41.5	43.7	nm	nm	0.4	0.4
Simple Average				0.97			12%	10%	34.0	31.0	13.4	9.9	0.5	1.4

HLIB Research, Bloomberg

Initiate coverage with BUY. We initiate coverage on CTOS Digital with a BUY recommendation and a DCF-derived target price (TP) of RM2.45/share (discount rate: 5.9%, TG: 3.5%). This implies a FY22F P/E of 74x, which is at a premium compared to its global CRA peers' average FY22F forward P/E of 34x. We believe that the valuation premium is justified as we are expecting CTOS to grow faster than its peers, with an FY21-22F growth of 27% and 26% respectively (vs. an average of 12% and 10% for its global peers).

Appendix

Figure #29 Glossary

Abbreviation	Phrase
ASEAN	Association of Southeast Asian Nations
Basis	CTOS Basis Sdn Bhd (formerly known as Basis Corporation Sdn Bhd)
BNM	Bank Negara Malaysia
BOL	Business Online Public Company Limited
CAGR	Compound annual growth rate
CBM	Credit Bureau Malaysia Sdn Bhd
CCM	Companies Commission of Malaysia
CCRIS	Central Credit Reference Information System, a computerised database maintained by BNM Credit Bureau to provide standardised credit reports
CIBI	CIBI Information Inc
CRA	Credit Reporting Agency registered with the CRA Registrar
Creador	Creador Sdn Bhd
Creador Group	A Malaysian mid-market private equity fund group, which includes Creador, Creador II and Creador II L.P.
CRIF	CRIF Omesti Sdn Bhd
CTOS SG	CTOS SG Pte Ltd
eTR	CTOS Electronic Trade Reference, non-bank trade references voluntarily submitted by CTOS Data Systems' subscribers
eTR Plus	CTOS Electronic Trade Reference Plus, non-bank trade references of positive information about a customer's payment history voluntarily submitted by CTOS Data Systems' subscribers
Experian	Experian Information Services (Malaysia) Sdn Bhd
IDC Research	IDC Market Research (Malaysia) Sdn Bhd, the independent market researcher
Inodes	Inodes Limited
Key Accounts	A customer type comprising all of our highest revenue-generating customers as well as other selected customers, such as those with complex requirements
KYC	Know-Your-Customer
MDEC	Malaysia Digital Economy Corporation Sdn Bhd
MDI	Malaysian Department of Insolvency
MITI	Ministry of International Trade and Industry
Thai DBD	Thailand Department of Business Development, Ministry of Commerce
Thai LED	Thailand Legal Execution Department, Ministry of Justice

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Figure #30 CTOS' Key Digital Solutions

Key Digital Solutions	CTOS Scores	CTOS Credit Manager	CTOS Basis (formerly BASISNET)	Comprehensive Portfolio Review
Application	- Three-digit numbers that represent an analytical assessment of the credit health of a consumer or business via CTOS Consumer Score and CTOS SME Score	- CTOS's SaaS online credit risk management platform for customers to search, store, monitor and manage their own customers' and related business parties' credit and other information	- Access Basis International credit and local comprehensive reports, litigation check, credit monitoring services and Business Listings	- Perform comprehensive reviews of CTOS customers' portfolios of end-customer data to provide them with more information about their own customer bases
Customer Type	- Key Accounts, Commercial customers and Consumers	- Commercial customers	- Commercial customers	- Key Accounts and Commercial customers
Revenue Model	- CTOS Consumer Score and CTOS SME Score are sold both as part of CTOS Reports and individually	- Subscription fee, which can be paid monthly or annually - On a transactional basis for digital solutions purchased through CTOS Credit Manager	- Subscription fee on an annual basis, or prepaid packages	- A one-time fee for each review, which varies based on the nature of the review
Key Digital Solutions	Portfolio Analytics & Insights	CAD	CTOS eKYC	Reports
Application	- Customised analytics and insights to customers based on a combination of a customer's portfolio data and CTOS's own comprehensive databases	- CTOS's SaaS solution that automates a customer's credit assessment process using analytics and insights from its proprietary information databases	- Digital onboarding solution that provides banks and businesses with digital identity verification via a four-layer authentication process, which is compliant with all applicable regulatory standards	- Produce reports that leverage our insights, solutions and information from CTOS's databases, and sell external reports produced by third parties
Customer Type	- Key Accounts, Commercial customers and Consumers	- Banks and corporates in both CTOS's Key Accounts and Commercial Customers	- Key Accounts and Commercial customers	- Malaysian and International consumers and businesses
Revenue Model	- A one-time fee for each project, which varies based on the nature of the project	- CAD is available as a cloud-base service or on-premises application. Customers pay a transactional fee and a one-time set-up fee	- Either monthly subscription fees and/or transactional fees and a one-time set-up / implementation service	- On a transactional basis
Key Digital Solutions	CTOS ID Guard	CTOS SecureID	CTOS CreditFinder	eTR and eTR Plus
Application	- Proprietary fraud bureau, offering a data sharing platform to detect and prevent application fraud	- Consumer fraud protection and credit monitoring SaaS solution. CTOS SecureID subscribers receive real-time alerts on suspicious activity and potential information data breaches	- Online matching and referral platform where lenders can list their financial products such as credit cards, home loans or personal loans	- eTR database contains electronic trade references which contain non-bank negative payment behaviour information on Malaysian individuals and businesses - eTR Plus database also contains non-bank positive and negative payment behaviour information on Malaysian individuals and businesses
Customer Type	- Key Accounts customers, particularly in the banking sector	- Consumers	- Consumers	- Non-bank customers in Key Accounts and Commercial customers
Revenue Model	- Subscription fee, paid annually	- Subscription fee, which can be paid monthly or annually	- Monthly subscription fee and marketing fees	- Monthly fee

Company

Figure #31 CTOS Credit Management Solutions

Lifecycle Stage	Identification	Customer / vendor onboarding	Application and decision making	Management and monitoring	Recovery
Description	<ul style="list-style-type: none"> Customer identifies a prospective business or a new business relationship or transaction 	<ul style="list-style-type: none"> Initial step of determining whether a prospective customer or vendor is suitable based on their past business and financial dealings 	<ul style="list-style-type: none"> Business decides whether or not to extend credit after a prospective customers is on-boarded 	<ul style="list-style-type: none"> Effective portfolio management, analysis and monitoring to better identify new sources of revenue and potential areas of credit risk 	<ul style="list-style-type: none"> A business must manage its relationship with a customer that can no longer meet its credit obligations
Digital Solutions	<ul style="list-style-type: none"> CTOS CreditFinder CTOS Tenant Screening Report Company Search Business Listings Customised Bulk Data Sales 	<ul style="list-style-type: none"> CAD CTOS Credit Manager CTOS IDGuard CTOS eKYC CTOS Tenant Screening Report 	<ul style="list-style-type: none"> CAD CTOS Credit Manager CTOS Scores CTOS Basis CTOS Data Systems Reports, CTOS Basis Reports and External Reports eTR eTR Plus 	<ul style="list-style-type: none"> CTOS Credit Manager CTOS IDGuard Comprehensive Portfolio Review CTOS Scores CTOS Portfolio Analytics and Insights CTOS SecureID 	<ul style="list-style-type: none"> CTOS Credit Manager eTR eTR Plus

Company

Figure #32 CTOS Marketing and Distribution Strategies

Key Accounts (provides digital solutions to approximately 430 customers)	<ul style="list-style-type: none"> Brand and networking events Forums and webinars Public relations initiatives for digital solution launches
Commercial (serves approximately 17,000 customers in Malaysia and internationally including SMEs)	<ul style="list-style-type: none"> Brand and networking events Forums and webinars Public relations initiatives for digital solution launches Digital and social marketing Partnership programmes
Direct-to-Consumer (serves Malaysian consumers)	<ul style="list-style-type: none"> Digital and social marketing Webinars Television and radio advertising Branded content placement Roadshows Partnerships Outdoor advertising

Company

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BUY	Expected absolute return of +10% or more over the next 12-months.
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